

THE
SCHOOL REVIEW

A JOURNAL OF SECONDARY EDUCATION

Edited by
THE FACULTY OF THE SCHOOL OF EDUCATION OF THE UNIVERSITY
OF CHICAGO

VOLUME XXV

JANUARY—DECEMBER, 1917



THE UNIVERSITY OF CHICAGO PRESS
CHICAGO, ILLINOIS

School of Education
Oct. 1, 1928

Published

January, February, March, April, May, June, September,
October, November, December, 1927

2794

Composed and Printed By
The University of Chicago Press
Chicago, Illinois, U.S.A.

L
11
ER3
V. 25
1917

THE SCHOOL REVIEW

A JOURNAL OF SECONDARY EDUCATION

VOLUME XXV

JANUARY 1917

NUMBER 1

THE HIGH SCHOOL OF TOMORROW¹

022

DAVID SNEDDEN
Columbia University, New York

1. The American high school is a young giant, now passing rapidly through his years of early adolescence. What will he be like, say in the year 1925, when, one may expect, he shall have attained his majority? In what essential respects will he differ from the youth of today who has not yet found himself, in spite of his great physical size, who is still closely tied to his mother's apron strings (for in a way, the college has mothered him), and who, notwithstanding his occasional freakishness, is still bound largely by the customs and superstitions of the youth reared in the atmosphere of mediaevalism?

2. In forecasting possible developments of secondary schools, let us keep in mind chiefly the urban or suburban community. The country high school like its prototype, the country elementary school, is unavoidably for the present, the Cinderella of the secondary-school sisterhood. We all hope that the prince bearing gifts will sometime find the rural high school, but for the present we cannot even be certain that he is on the quest. During the next decade it is clearly in those communities where many people live not too far from each other that we may expect experimental

¹ Notes of an address delivered by Professor David Snedden of Teachers College, Columbia University, New York, to the Central Association of Science and Mathematics Teachers, Chicago, December 1, 1916.

changes in secondary education to be launched, and permanent modifications to become established. At the risk of seeming unjustifiably dogmatic, let us hazard guesses as to what some of these will be.

3. The high school of today (as we personify it) thinks of its responsibilities chiefly in connection with the best fourth or best third of the children of the community who have completed the eight-year elementary-school course and who are usually from fourteen to eighteen years of age. But, beginning with the segregation of children from twelve to fourteen years of age into the junior high school, we shall probably bring within the general scope of secondary education all schooling suited to youths from twelve to eighteen years of age, whether general or special, liberal or vocational. There is, in reality, little to distinguish secondary from elementary education in purpose or kind—the differences are chiefly in degree only. Most of the distinctions between elementary and secondary education which we try to incorporate into educational theory are factitious and unhelpful. In the secondary school of 1925 we shall doubtless be teaching some children of even fourteen or fifteen years of age the rudiments of reading and writing and number, but, because of their age, we shall minister to their educational needs in special classes in some type of secondary-school class, instead of placing them in lower schools with younger children.

4. The high school of today thinks of its *certainly attainable* purposes chiefly in terms of the mastery of certain forms of highly organized knowledge, and in strict accordance with certain traditional standards as to what constitutes such mastery—capacity for verbal reproduction, performance of definite exercises, etc. It also dreams freely of other purposes not so proximate, and of greater permanent significance—the training of mind, the ennobling of character, the in-breathing or evoking of persistent cultural interests, the kindling of the civic sense and the like. But in large part these dreams now give us only castles in Spain. Like the enterprises of poor Colonel Sellers, the big aspirations which we cherish on behalf of our secondary schools sound well by the fireside or as the subject-matter of after-dinner speeches; but in the cold light of

day they guide us very little in the actual tasks planned or under way in the teaching of Latin, German, English, physics, ancient history, algebra, mechanical drawing, lathe-work, or commercial geography.

5. By 1925, it can confidently be hoped, the minds which direct education will have detached from the entanglements of our contemporary civilization a thousand definite educational objectives, the realization of which will have demonstrable worth to society. It will be found that many of these can best be realized through the medium of some type of secondary school or class therein. In defining and giving comparative valuations to these objectives or purposes or goals we shall, of course, take account in due measure of the possible and the desired well-being of the individual as well as of the society of which he is a member; of the native powers, interests, and probable future opportunities of the learner; and of the by-education resulting from, or to be procured through, such social non-school agencies as the home, the church, the workshop, community contact, and the like.

6. Educational objectives worthy of a place in publicly supported secondary schools will have been found to be of many kinds. Some of these will center chiefly in the promotion of physical well-being—to be realized through the establishment of right ideals of health, strength, and endurance; the imparting of needed instruction in hygiene and sanitation; and the training in habits of posture, activity, and restraint. We get glimpses of the possibilities in this direction even now, but they are only glimpses. What is the significance to the educational programs of the future of the results on physique and health of the forced training and the exposure endured by the millions of recruits in the present war? How far are we yet from a realization of the cost to the physical womanhood of this country of our specialized nerve and brain drill in schools?

7. Again, some of our objectives will center definitely in cultivation of specific personal intellectual and aesthetic interests—the resources wherewith we enrich our leisure time, our individual lives. In view of their ostensible aims, the high schools of the present should be doing more along this line than is now actually the case.

They should at least establish abiding cultural interest—appreciations, tastes, enthusiasms, even hobbies—in literature, science, foreign languages, and history. Surely the high school of 1925 will be doing this? Surely it will take the necessary means to insure that all those who have felt its influence will somewhere in the world's multifarious cultural possibilities find *leads* which may grow into vital personal interests of a high order, give rise to avocational activities, and entitle the possessor to rank with cultivated men in some field. In music, literature, social science, natural science, history, travel in foreign lands, the practical arts suited to the amateur handicraftsman, politics, drama, the moving picture—in most, if not all, of these directions we may expect the school to offer openings to be made available to each learner according to his leanings, his capacity, and his possibilities of largest self-development.

8. A third class of objectives will be evolved in connection with the direct and purposive development of young people toward the standards of civic habit, knowledge, ideal, and the resulting behavior which befits the member of the social group, the citizen of the state in the twentieth century. Call this form of education moral, civic, ethical, humane, religious, social—in greater or less degree, it is each and all of these—it is certain that in the complicated social life of the age upon which we have already entered we must have it in ever greater measure if we are to survive. It must include the formation of certain fine social habits and attitudes which the by-education of agencies other than the school has not given; it must include the giving of much of the social knowledge which is necessary to guide us aright in the jungle of modern social life; and it must be strong in the cultivation of a variety of right sentiments and ideals. But it must do much more than train (in the specific sense), inform, and inspire; it must provide for action, for achievement, for social control, for government, for social work, within the reasonable capacities of the adolescent learner. The activities of the Boy Scouts, of youthful camping parties, of voluntary organizations and self-governing groups in schools now suggest some of the possibilities in this direction. But we shall have to multiply new openings. Here must begin the service activities

for political participation, for defense, for business co-operation, for accumulation and use of capital, for the reform of anti-social individuals, for the co-operative support of the handicapped, and for the pioneering of new constructive effort. We can take for granted the disposition of all adolescents to become good and approved and progressive members of society, but we must kindle to the utmost the motives and vitalize the sanctions that, for these younger people, give depth and reality to their social education. We shall find it practicable and desirable to make more of appeal to the spirit of fair play, to the sense of personal loyalty, to the jealousy of personal honor, to the desire for success, to the altruistic, and to the religious sentiments than we have been doing heretofore, and we shall learn how to do it in each case without provoking self-consciousness and opposition, or permitting indifference and "slacking." The high school of 1925 will have learned how to give "backbone" to moral and social education, as, in some degree, the Y.M.C.A., the boys' clubs, the Boy Scout leaders, and the conductors of camps have already done. But it will find also that many of the best results of social education are to be developed, not in the shape of specific habits, definite knowledge, and vigorous activities, but rather as kindled appreciations, refined sentiments, and uplifted ideals. For all this, pedagogical methods have yet largely to be devised.

9. Finally, we must expect that opportunities for vocational education in endless variety will evolve under, or in connection with, the secondary schools of 1925. Until the economic and domestic basis of our present civilization changes radically it will be inevitable that the majority of our boys and girls will desire and will be obliged by circumstances to enter upon self-supporting work somewhere between the ages of fifteen and eighteen. For many of these it will be found that specific vocational schools designed to give, or, at any rate, to supervise their initial vocational education will be of the utmost importance. Some stages of habituation and of experience looking to direction (foremanship) may well be left to the by-education of shop, office, and farm. The exact relation of the vocational school to the school of general or liberal education cannot now be foreseen, but in all probability it will somewhat

resemble the relation of the college of vocational education to the liberal arts college in the American university. Certainly these vocational schools, whether making "full-time" offerings (that is, undertaking all three phases of vocational education—practical participation, related technical study, and general studies related to the vocation) or only "part-time" offerings (evening schools, continuation schools, etc., supplementing the learning acquired in the commercial pursuit of a vocation), will be closely linked up with the occupational fields for which preparation or further training is being given. If these occupations are found in productive industries occupying partially segregated districts, then, doubtless, the full-time vocational schools will also be located in these districts.

Probably *vocational* education and *general* education (including under the latter *physical*, *social*, and *cultural*) will not be blended or fused in the efficient secondary schools of 1925, as seems to be the case now in certain quasi-vocational schools ostensibly making offerings of vocational instruction or training as elements in a modified scheme of general education (actually they give only "denatured" vocational education). All signs point to the conclusion that in 1925 the person learning a vocation in a school will organize his time and expend his energy much as does now the approved employee in home, shop, or office, or on the farm, on the road, or on shipboard—he will give from seven to ten hours of "the heart of the day" to his vocational pursuit (practice and learning) and his remaining waking hours (and holidays) to recreation, the furthering of personal culture, and the discharge of his civic and other social responsibilities.

10. In addition to definition of purposes the high school of 1925 will surely have made great advances over present practice as regards the definition of effective methods of instruction and training. For this purpose it will be essential to distinguish *kinds* and *qualities* of useful learning and to apply the distinctions thus made to the varied departments of human activity which we wish to improve or otherwise modify through our schooling.

For example, is it not desirable that pupil and teacher should know quite definitely and be in agreement as to when learning should result in well-assimilated knowledge, capable of instant

application in the course of life's practical activities? Without doubt secondary education today lacks a certain vertebral quality, a kind of hardness and firmness. Its results are vague, its graduates intellectually flabby to a degree that disturbs us. But, certainly, the way out of this difficulty is not that of simply making *all* studies hard, of setting more rigorous examinations, of "firing" weaker pupils, or of appealing to the sense of fear and the methods of "driving" generally.

As in all other fields of activity where high standards prevail, education must learn to discriminate the quality of the means which it employs to attain ends. We need "vertebrate" quality in secondary education, but we need much besides. Liberal education can better be defined in terms of appreciation, interest, or capacity for wise choice than in terms of power to execute, or to apply knowledge definitely. What are the pedagogic means of producing appreciation, taste, or interest over wide areas? We have much to learn here.

11. The high school of 1925 will probably be much more effective than is the high school of 1916 in training the mental powers of its pupils. For one thing, it will doubtless teach the pupils themselves something of mental science—at least to the extent of enabling them to appreciate the importance of keeping the complicated machinery of the nervous system in good running order, and the large possibilities of so training the powers of the mind that optimum efficiency shall be the outcome.

Quite certainly, however, the high school of 1925 will not be, as is the high school of the present, the victim of the quackeries, the cure-alls, the "luck stones," that came into vogue in the ages of educational faith. In the dark ages of medicine it was widely taught and believed that some nauseous drugs, some awful concoctions of dead or diseased organic matter, were the indispensable cures for human ailments. In somewhat the same way the modern educational exemplars of the mediaeval healer insist that some nauseous and unnatural studies, largely made up of dead matter, must be employed for the educational salvation of the young.

For all practical purposes the future high school will insist upon the fullest mental training as a necessary feature and expected

by-product in connection with the pursuit of objectives otherwise worth while also. Conceivably, provision will be made for mental gymnastics, for "corrective" work, for very specific training on occasions when the need of that shall be apparent. But this will be something so different from our present unintelligent reliance upon algebra and Latin as chosen panaceas for the undisciplined mind that any comparison would be out of the question.

12. Will anything like uniform programs of instruction and training for large number of pupils be found in the high schools of the future except in the case of particular groups of studies and forms of practice designed to produce vocational efficiency in a given field? It is doubtful. The field of human culture is so large, its valuable prospects so many, that each learner, under wise guidance, will usually make his individual program, subject, of course, as in the modern university, to the administrative limitations of the institution to make many and varied offerings.

Hence, we may be certain that the large, rich, secondary schools of 1925, holding forth opportunities suited to all children from twelve to eighteen years of age, will offer a wide range of activities, some of the "hard-work" order, some of the "high-grade play" order, and that no pupil will be debarred from making his own program except for weighty reasons, the burden of establishing the validity of which will rest upon the school. But it will be assumed that the guardians of the pupils, as well as the pupils themselves, are disposed to do the things educationally that will prove most profitable to them, and that advisory agencies will be found in the school to indicate what lines of study, of personal training, and of culture will prove most worth while. We may hope that the doctrine of the innate depravity of secondary-school students, as well as the doctrine of the incorrigible imbecility of their parents, will have been rendered innocuous, if not obsolete.

13. A special word is due as to the probable place of science and mathematics in the high schools of 1925.

First, while absolute prescriptions will be rare, it will generally be expected that all students will give some time to reading, amateur experimentation, and field study, in a sufficient variety of fields of science to beget in them wide and generous appreciation

of the part played by science in modern life. All the work offered with this end in view will be of the "*beta*" type. It is to be hoped that students of educational psychology will have discovered satisfactory *means* (organized materials, reading-matter, opportunities for experimental work) and *methods* to make learning of this kind count toward *liberal* education when given under school auspices. At present many of our pupils are left to the chances of general reading, the moving pictures, and personal associations to obtain an appreciative contact with the inspiring aspects of modern scientific achievement.

For the present we should devote our best efforts to the organization of a course—very flexible and very alluring—in general science for youths from twelve to fifteen years of age. One hopes that a similar course in mathematics could be evolved, but, with the traditions of that subject crystallized as they now are, the situation seems hopeless. Certainly, from the point of view of any sound theory of *liberal* education the thing is possible and most highly desirable.

Some branches of science and of mathematics offered as "*alpha*" units will, in the future high school, be designed primarily to serve as prevocational studies; that is, students anticipating entry upon certain mathematics- or science-using vocations will deliberately seek, as preliminary thereto, equipment in the shape of ability to use these subjects as instruments. Probably adherence to this primary aim will result in great modifications of these subjects from the pedagogic forms in which they now appear, and tribute must be paid to the large amounts of experimental and genuinely constructive work done in this direction by school men in and around Chicago.

Then, of course, some mathematics and some science, always in highly specialized and very directly "applied" forms, will appear in the various vocational schools clustering under the secondary-school organization of the future.

14. Below is given a long list of the "subjects" divided into alpha ("hard work") and beta ("amateur," "high-grade play") classes, which will possibly be considered by the school authorities of 1925 in determining the offerings which it is feasible for a

A LIST OF POSSIBLE SECONDARY-SCHOOL SUBJECTS FOR A "MODERN"
HIGH SCHOOL

Name of Subject*		Alpha Units	Beta Units
I.	1. <i>English language:</i>		
	2. English grammar	I	
	3. English written composition	I OR 2	
	4. Silent reading	$\frac{1}{2}$ OR I	
	5. Voice culture	I	
	6. Oral reading	I	
	7. Public speaking	I	
	8. Rhetoric	I	
	9. General study of English	I	
	10. History of English language		I
	11. Current usage		I
II.	12. <i>English literature:</i>		
	13. American selections		I
	14. Nineteenth-century English selections		I
	15. Classical English selections		I
	16. Contemporary fiction		I
	17. Contemporary drama and poetry		I
	18. Contemporary general literature		I
	19. Historical review of English literature		I
	20. Intensive study of selections	I	
III.	21. <i>Natural science:</i>		
	22. General science		I
	23. Astronomy		$\frac{1}{2}$
	24. Geography		I
	25. Geology		I
	26. Biology and evolution		I
	27. Natural history of man		I
	28. Physics	I	
	29. Chemistry	I	
	30. Biology	I	
IV.	31. <i>Social science:</i>		
	32. Community civics	$\frac{1}{2}$ OR I	$\frac{1}{2}$ OR I
	33. Study of nations, historical and contemporary		I
	34. Essentials of social science, with materials for historical perspective	I	I
	35. History, American	I OR 2	I OR 2
	36. History, general	I OR 2	I OR 2
	37. School government, practice		$\frac{1}{2}$
	38. Electoral government, national, state and local, including voting	$\frac{1}{2}$	$\frac{1}{2}$
	39. Social ethics		I
V.	40. <i>Mental science:</i>		
	41. General mental science		I
	42. Methods of study	$\frac{1}{2}$	
VI.	43. <i>Mathematics:</i>		
	44. General mathematics		I
	45. Algebra	I	
	46. Plain geometry	I	
	47. Trigonometry and solid geometry	I	
	48. Prevocational arithmetic	I	

*Figures at left refer to explanatory notes at end of section.

A LIST OF POSSIBLE SECONDARY-SCHOOL SUBJECTS FOR A "MODERN"
HIGH SCHOOL—*Continued*

Name of Subject*		Alpha Units	Beta Units
VII.	49. <i>Classical language and literature:</i>		
	50. Classical language and literature, general.		I
	51. Latin in relation to English.	$\frac{1}{2}$	
	52. Latin language.	2	
	53. Greek language.	2	
VIII.	54. <i>Modern language:</i>		
	55. German reading.	I or 2	
	56. French reading.	I or 2	
	57. Spanish reading.	I or 2	
	58. Russian reading.	I or 2	
	59. Spoken German.	I or 2	
	60. Spoken French.	I or 2	
	61. Spoken Spanish.	I or 2	
	62. Prevocational Spanish reading.	I	
	63. German literature.		I
	64. French literature.		I
IX.	65. <i>Graphic and plastic art:</i>		
	66. Drawing and Painting, amateur.		I or 2
	67. Mechanical drawing.	I or 2	
	68. Illustration, amateur.		I or 2
	69. Design, 2d and 3d dimension, amateur.		I or 2
	70. Design, prevocational.	I	
	71. Art appreciation, historical and contemporary.		I or 2
X.	72. <i>Music:</i>		
	73. Chorus singing.	I	
	74. Individual vocal.	I	
	75. Individual instrumental.	I	
	76. Band.	I	
	77. Musical appreciation (including historical).		I or 2
I.	78. <i>Physical education:</i>		
	79. General hygiene and sanitation.		I or 2
	80. Play, games, field sports.		I or 2
	81. Individual corrective exercise.	I	
	82. Rifle team and hiking.	I	
XII.	83. <i>Vocational guidance:</i>		
	84. General reading-course.		I
	85. Tests for vocations.	I	
XIII.	86. <i>Practical arts:</i>		
	87. Agricultural arts.		I or 2
	88. Industrial arts.		I or 2
	89. Commercial arts.		I or 2
	90. Household arts.		I or 2
XIV.	91. <i>Vocational training:</i>		
	92. Machine metal work, practice (school, commercial, shop).	4 or 8	
	93. Machine metal work, technical.	2 or 4	
	94. Machine metal work, informational.		I or 2
	95. Machine metal work, part time in private shop.	4 or 8	
	96. Machine metal work, technical (school).	$\frac{1}{2}$ or 4	
	97. Machine metal work, general.	I or 2	
	98. Gardening, home farm practice.	4 or 8	

A LIST OF POSSIBLE SECONDARY-SCHOOL SUBJECTS FOR A "MODERN"
HIGH SCHOOL—*Continued*

Name of Subject*	Alpha Units	Beta Units
99. Gardening, technical (school)	2 or 4	
100. Gardening, informational (school)		1 or 2
101. Counter salesmanship (private shop practice)	4 or 8	
102. Salesmanship, technical (school)	2 or 4	
103. Salesmanship, informational (school)		1 or 2
104. Homemaking, practice (private home)	4 or 8	
105. Homemaking, technical (school)	2 or 4	
106. Homemaking, informational		1 or 2

*Figures at left refer to explanatory notes at end of section.

NOTE.—Repeat for other vocations, such as: house carpentry, printer, painter, fireman, teamster, electrical worker, weaver, shoemaking specialist, etc.; farmer, stock raiser, farmhand, florist, horticulturist, etc.; stenographer, bookkeeper, field salesman, clerk, file clerk, etc.; wage-earning domestic, "mothers' helper," children's nurse, waitress, etc.

particular school to make. It would be easy to add to or otherwise modify this list according to one's preconception as to things "educationally most worth while." Until we possess a more adequate educational psychology, and especially sociology, we shall, of course, have few satisfactory criteria as to the "worth whileness" of these or any other proposed members of secondary-school curricula.

The measures indicated by the figures in the columns on the right ("Carnegie units") have little validity, of course, and are included merely to suggest the desirability of eventually evaluating all these studies somehow in terms of the amount of time and—it is to be hoped—effort which should properly be given them.

EXPLANATORY NOTES

1. *English language* is the term here used to cover all forms of oral and written expression and of apprehension on a technical basis, such as silent reading.

2. A technical study, especially of the principles of fundamentally good writing and reading—probably different aspects of the same subject. It may be assumed that the correction of solecisms of speech will be made independently of this study.

3. The subject as ordinarily understood.

4. A subject not now developed, but which offers much promise and is capable of having developed a technique of its own.

5. Results to function especially in speech and oral composition.

6. A specialty for those desiring effectiveness in this department, either for socially decorative or for practical purposes, e.g., prospective teachers.

7. To cover a wide range—speaking to several persons simultaneously or addressing large audiences.

8. Like grammar, a formal study of principles for the sake of good writing and reading.

9. A systematic general study of elements that enter into the effective use of English. Intended as an alternative for those not electing two or more of the subjects already named.

10. Purely an appreciative study, based upon lectures and the reading of choice works.

11. An appreciative study based chiefly upon good usage of English by contemporary writers and speakers, bringing out especially their distinguishing qualities.

12. To cover all phases of literature in the vernacular. The actual objectives of this study are not yet clearly defined, but our faith in its possibilities is strong. As a matter of fact we shall ultimately classify the objectives of the study of English literature under three heads: (a) informational and historical, (b) for purposes of aesthetic appreciation, and (c) for purposes of socialization and character building.

13-19. Appreciative studies in the fields indicated, all elective, with, perhaps, requirement that not less than two shall be taken by every student. Few selections should be prescribed for all pupils alike. Much individuality should be allowed, and teaching is to be largely by way of conferences following readings by pupils.

20. Intensive study of one or more selections to obtain mastery of method of analytical study of English literature.

21. Objects of natural science teaching should probably be threefold: (a) appreciative insight into phenomena of environment, (b) mastery of distinct fields for prevocational purposes and interest in sympathetic study, and (c) scientific method which should be a by-product of all the teaching, it being remembered that scientific method has its appreciative as well as its executive aspects.

22-27. Appreciative studies based upon amateur motives of research and doing, and utilizing general reading, lectures, etc.

28-30. Systematic studies intended to be prevocational for some and to satisfy the demands of those who desire or on whose behalf—e.g., college admission—is desired rigorous study.

31. Social science includes historical studies, but it is assumed that history starts with analysis of social science as based on contemporary life.

32. One-half unit of rigorous study of facts, with a view to their application of the results of such study, and one-half unit of appreciative reading, etc.

33. An appreciative study.
34. Contemporary situations of social science studied, after which careful study of historical antecedents.
- 35-36. Courses resembling those now found, but divided into the two phases.
37. The practice of school government by pupils willing to take an active part in official action, leadership, etc.
38. Systematic study in part, appreciative study in part.
39. Appreciative reading.
40. A proposed study, undeveloped as yet in secondary education, but of utmost importance.
41. An appreciative study of phenomena and their interpretations as far as the pupils can go.
42. Systematic study of methods of effective learning.
43. An appreciative study of the part played in modern life by mathematics.
- 44-48. Studies designed to effect permanent mastery.
49. Classical languages and literature. Studied chiefly from the point of view of contributions to liberal education.
50. An appreciative study of the place of classical language and literature in history and in the foundations of the English language.
51. A study not yet developed, but analogous to word analysis as formerly studied.
- 52-53. Definite language studies, with a view to certain prescribed forms of mastery.
54. It is assumed that the objectives to be kept in view will be more clearly defined than is the case at the present time in modern language teaching.
- 55-62. Definite forms of mastery in accordance with pre-established standards.
- 63-64. Appreciative approaches on the basis of forms of literary presentation not yet organized, doubtless using translation chiefly.
65. Chiefly designed to contribute to the ends of liberal education.
66. The amateur and appreciative basis to be emphasized.
67. Prevocational usages contemplated principally.
- 68-71. Self-explanatory.
- 72-77. Self-explanatory.
- 78-80. Quantity might be prescribed, but particular forms left optional.
81. Prescribed and routine work required.
82. Subject may be elected, but once chosen, definite efficiency should be the outcome.
- 83-84. Self-explanatory.
85. A course of tests for pupils interested in particular vocations might be prescribed, perhaps to be called "prevocational training."

86-90. All of these studies placed on appreciative basis. The method is assumed to be one of intensive sampling and largely based on individual interests. Might be utilized sparingly for vocational guidance.

91-106. A particular trade must be selected, then provision made for practical instruction in it, followed by provision for technical instruction. A distinction is suggested between practical instruction in schoolshop which might occupy, primarily, a period of from one month to two years, followed by transfer of learner to commercial shop where part of time is reserved for continuation school or part-time school attendance.

In the case of any particular occupation a study on the appreciative basis of the more cultural aspects should be provided also.

OBSERVATION AND PRACTICE IN COURSES FOR TRAINING RURAL TEACHERS

C. J. ANDERSON, Stoughton, Wisconsin
WINIFRED EDSALL, Platteville, Wisconsin

One of the most difficult problems which the state school system of Wisconsin is attempting to solve is how, effectively, to train teachers for rural schools. This study deals with those phases of the problem which relate to observation and student practice teaching. For the purpose of making more intelligible the data to be presented, it is desirable that a brief survey be given of the various agencies for the training of rural school teachers in the state.

The state maintains three types of schools whose business is, in whole or in part, the training of rural teachers. Such schools are, in the order of the establishment of specialized courses for this purpose, county training schools, of which there are twenty-eight; state normal schools, six of which have rural-school departments; and high schools, twenty-seven of which have been designated by the state superintendent to carry on this work. These schools are under state control.

The county training school is a vocational school whose sole business is the training of rural teachers. The salaries of its teachers are paid by the state; the building and the equipment are furnished by the county government. In these schools two courses are offered: a one-year course for high-school graduates and a two-year course for graduates of common or graded schools. By this arrangement a high-school graduate has five years of work above the eighth grade, the last year being professional work taken in the county training school. Graduates of graded schools have two years of work above the eighth grade. In these courses are offered those subjects required in the examination of candidates for second-grade teaching certificates. These include reviews of common-school branches, algebra, English history, English literature,

arithmetic, American history, school management, observation, and practice teaching.

The course of teachers of rural schools offered in state normal schools is one of many different courses presented. It includes a review of common-school branches with the addition of botany, zoölogy, composition, American literature, methods, observation, school management, psychology, and practice teaching. At least one state normal school maintains a model rural school, where observation and practice teaching are carried on. Such normal schools are not vocational schools exclusively, for they offer, in addition to various courses for the preparation of rural-, grade-, and high-school teachers, two years of college work.

Twenty-seven high schools have been selected by the state department of education in which courses for the training of rural-school teachers are maintained. This is in accordance with an act of the legislature passed in 1913 which requires professional training for all who apply for a certificate to teach in the schools of the state, who had not taught prior to July 1, 1914. This act provides that professional training may be given at a high school, if at least three teachers exclusive of the principal are employed. The act provides, further, that the state shall reimburse the high school in an amount equal to the salary of the teacher giving the professional work.

The course of study is divided into three sections: first, required professional work. This consists of the following branches: (1) junior professional reviews, 1 unit; (2) senior professional reviews, 1 unit; (3) senior pedagogy, $\frac{1}{2}$ unit; (4) practice work, school law, 1 unit; (5) observation and school management, $\frac{1}{2}$ unit. The second division of the course of study includes required academic branches. These are English, 3 units; geography, $\frac{1}{2}$ unit; arithmetic, $\frac{1}{2}$ unit; United States history, 1 unit; citizenship, $\frac{1}{2}$ unit; physiology, $\frac{1}{2}$ unit; agriculture, 1 unit; domestic science, 1 unit. The required work covers 8 units of work. The third section of this course of study comprises elective academic branches. This covers 3 or 4 units of work. These units may be in Latin, or geometry, or algebra, or in any branches considered suitable by the high-school principal.

This study concerns itself with that part of the professional work entitled Practice Work and Observation, for, it is in administering such courses that one finds himself in an uncharted sea. Questions like the following continually arise: When and where should observation begin? What subjects should be observed? What records should be kept? In what grades should practice work be carried on? How much should be required? etc.

In order to ascertain current practice in administering such courses in Wisconsin, an inquiry was sent to each county training school and to each high school engaged in training teachers for rural schools. The inquiry was as follows:

OBSERVATION

1. When does observation begin?
2. How many recitations are observed per week? In what subjects?
3. What records are kept of these observations? What use is made of these records?
4. Do students observe the regular classroom teacher or the training teacher?
5. How much observation is done in country schools? Does county superintendent take students to country schools while he is on his regular inspection trips? Does he accompany classes?
6. How many times does the student observe the class which she is to teach?

PRACTICE WORK

1. When is practice teaching begun?
 2. In what grades is practice work done?
 3. How many class periods does each student teach per week?
 4. How many weeks of practice work is required of each student?
 5. What subjects are taught by student teachers?
 6. What subjects are *required* of each student teacher?
 7. How many consecutive recitations are taught in each subject?
 8. Does student teacher practice in regular grade room? If so, is she in charge of the room?
 9. If student does not teach in grade room, where is teaching done?
 10. Does more than one student teach in the same room at the same time?
- What is the average size of class taught by students?

Replies were received from twenty-two of the twenty-eight county training schools and from every high-school training department in the state. An analysis of the data obtained follows:

OBSERVATION

When does observation begin?

TABLE I

	JUNIOR YEAR	OR WEEK OF SENIOR YEAR						
		1	2	3	4	5	First Quarter	Indefi- nite
High-school department..	9	6	8	2	1	1	.....	.....
County training schools..	2	3	.....	.....	.....	1	10	6

Table I is to be read as follows: nine high-school departments and two county training schools begin observation work in the Junior year, which is the first year in which any professional work is offered. The remaining schools offer observation work in the Senior year. Six high schools and three county training schools beginning observation the first week of school, eight high schools beginning the second week of school, etc. The replies of the county training schools were indefinite, ten schools stating that the observation begins during the first quarter and six merely stating that such work is given in the Senior year. Upon further inquiry it was found that experience has demonstrated the advisability of beginning observation work as early as possible. Next year most of the schools offering this work will begin observation in the Junior year.

How many recitations are observed per week?

TABLE II

No. of Recitations	1	2	3	4	5	Over 5
High-school training department.....	1	6	2	2	6	10
County training schools.....	1	2	.....	1	6	6

TABLE III
IN WHAT SUBJECTS OBSERVED?

Subject	Reading	Arithmetic	Geography	Language	Phonics	History	Music	Writing	Spelling	Physiology	Gymnastics
High schools	27	27	23	27	16	17	....	13	13	14	....
County training schools....	17	15	16	16	8	8	9	8	10	....	1

Tables II and III give the answers to question 2 of the inquiry on Observation. From Table II it is seen that the majority of high schools and county training schools require five or more classes to be observed each week by students. Every high-school department requires observation in reading, arithmetic, and language. Nine county training schools require observation in music. No high school emphasizes this. High schools as a rule observe work in physiology. This subject was not mentioned as being observed by classes in county training schools. The table indicates that the chief emphasis in observation is placed on reading, arithmetic, geography, and language. Sixteen high schools and fifteen county training schools observed work in all of the grades.

The answers to question three under Observation indicate that in only three high schools and in two county training schools are there no records of these observations kept. All the rest make notes and outlines which are used as a basis for class discussion and as a reference for future teaching.

In fifteen high schools and in fourteen county training schools the work of the regular classroom teacher, only, was observed, while in eleven high schools and in four county training schools the teacher in charge of observation work taught demonstration classes for the benefit of the training-course students.

TABLE IV
AMOUNT OF OBSERVATION DONE IN RURAL SCHOOLS

No. of Days	None	1	2	3	4	5	Over 5	Indefinite
High schools.....		2	6	2	2	8	1	6
County training schools.	1	.....	8	1	.....	8	1	2

Observation of the regular work in a rural school is extremely important. Here only can prospective teachers see teaching done under normal rural conditions. Yet no rural schools were visited by one county training school. The distribution appears to be bimodal, two and five being the most frequent numbers of visits made. The means of transportation presents a serious difficulty in attempting rural-school visitation, yet the problems of the one-room country school are of such a nature that they can be studied

best where they occur. At least five days per year should be spent in visiting and observing the work in these rural schools.

The latter part of question 5 under Observation was asked in order to ascertain the amount of co-operation between the county superintendent of schools and the schools where the teachers whom he supervises are trained. The inquiry revealed the fact that this official accompanied classes on their visits to rural schools in seven cases reported by high schools and in five cases reported by county training schools. Seven high schools and three county training schools reported that the county superintendent carried one or more students with him on his regular inspection trips. These figures do not reveal any great amount of co-operation between the professional schools for rural teachers and the inspectors of their product. Surely no better opportunity to become acquainted with prospective teachers can be found than is given by such trips. Here there is need of reform. It is common knowledge in one county of the state that the chief administrative school official has neither visited nor inspected the training course for rural teachers since its establishment.

TABLE V

HOW MANY TIMES DOES STUDENT OBSERVE CLASS WHICH SHE WILL TEACH?

Times	1	2	3	4	5	Over 5
High schools.....	1	2	4	0	13	7
County training schools.....	1	8	1	1	10	1

According to Table V, the student in the average high school or county training school will visit a class for observation purposes five times before she begins to teach the class. The usual custom is to visit a class each day for a week prior to entering upon teaching. When the pupil has taught the required time in one subject, she spends several days in observation again before beginning to teach another subject.

The school year of the county training school is forty weeks in length. The eleventh week is the beginning of the second quarter of school. Table VI indicates, then, that in county training schools, practice teaching begins, usually, at the beginning of the

first or second quarter. There is little or no uniformity among the high schools in this matter. The fifth week is both the median and the mode for the beginning of practice work. Some high schools wait until the beginning of the second semester before setting this branch of professional work into operation. The first four weeks of the high-school year are devoted to observation work and to the adjustment of the school machinery.

TABLE VI
PRACTICE WORK: WHEN PRACTICE TEACHING BEGINS

Week	1	2	3	4	5	6	7	8	9	10	11	16	18	19	21
High schools.....	...	2	1	2	9	5	1	1	1	1	1	...	3	...	...
County training schools.	6	1	...	...	1	...	...	...	...	...	6	1	...	4	2

Table VIII shows the effect of local administrative difficulties. In some schools, particularly in county training schools, only a few grades are available for practice work. In a few of the county training schools are found model departments of from four to six grades. Other county training schools do their practice work in the city schools. Grades one to six inclusive contain the pupils which most nearly approximate these of rural schools in age and

TABLE VII
IN WHAT GRADES IS PRACTICE WORK DONE?

Grades (inclusive)	2-4	3, 4	1-4	1-5	1-6	1-7	1-8
High schools.....	1	.....	2	4	10	5	5
County training schools.....	.....	1	5	.....	10	2	3

progress. This is evidenced by the fact that ten high schools and an equal number of county training schools use these grades for practice teaching. Trempealeau County in Wisconsin has 106 rural schools. In 1914, there were graduated from these schools 55 pupils. In 1915, the graduates numbered 90. This means that the average is less than one eighth-grade pupil per school. It also indicates that there is little necessity for practice work beyond the sixth grade, for there are very few pupils in the rural schools more advanced than this grade.

The number of weeks of practice work required of student teachers is shown in the accompanying chart. The upper section of the chart shows the number of weeks of teaching required in each of the twenty-seven high-school departments. The lower section shows the same facts for county training schools. The number of weeks of student teaching required in each school is placed at the right of the name of the school. For the high-school departments the lower quartile is 18, the median is 20, and the upper quartile is 28. This gives a quartile range of 10. This means that the middle 50 per cent of the schools require from 18 to 28 weeks of practice work. In the county training schools the lower quartile is 10, the median 12, and the upper quartile 20, with a quartile range of 10. The middle 50 per cent of these schools require from 10 to 20 weeks of practice work. In this respect the high-school training departments appear to be stronger than the county training schools. Nine high schools require the median amount of time, while nine county training schools require but 10 weeks of practice work. The state department of education makes this recommendation: "Most teachers are finding that 20 weeks' work in practice is far more satisfactory than the 10 weeks' work that has been required. Beginning with the school year of 1915-16 a minimum of 15 weeks of practice should be required of all students in high-school training departments, and 20 weeks is strongly recommended. This lengthened period makes it possible for every student to teach at least three classes for 5 weeks each."

Chart B indicates the subjects, required or elective, which are taught by practice teachers in high-school training departments and in county training schools. The chart is to be interpreted as follows. Triangles whose altitudes are on the left and nearest to the names of the high schools which maintain training departments refer to these schools. Triangles which point to the left refer to county training schools. Solid triangles indicate those subjects required to be taught in high-school training departments. Triangles with horizontal bars refer to required subjects in county training schools. Triangles shaded by vertical bars indicate subjects which may be selected either by student or by supervisor.

Every high-school department in the state requires practice work in reading. The same requirement holds for all county training schools with the exception of two. Arithmetic occupies much the same position in high schools, being required in all schools but two. Four county training schools make the teaching of arithmetic elective. Seventeen out of twenty-seven high-school training departments require language to be taught. About one-half of the county training schools make this requirement. Geography is an elective in the majority of schools. Less than half of the schools offer history and spelling even as an elective. The chart indicates clearly where the stress is laid in practice teaching. Evidently reading, arithmetic, and language are considered the basal subjects and are named in the order of their importance. County training schools offer a wider range of subjects for practice work than high schools do. Many subjects indicated as electives are elective from the supervisor's standpoint rather than from that of the pupils.

Table VIII is to be read as follows: In high-school training departments the median class taught by students has from 9 to 11 pupils in it. The median for county training schools is 15 and over. The size of the class used by students in county training schools is determined more by necessity than by choice. Many such schools must take what they can get from public-school authorities. A class of from 6 to 8 would more nearly approximate

TABLE VIII
SIZE OF CLASSES TAUGHT BY STUDENT TEACHERS

Size	6-8	9-11	12-14	15 and over
High schools.....	4	13	3	7
County training schools.....	2	4	5	11

the actual rural class in size. In many rural schools, the majority of classes have an enrolment of less than 5. A class of 15 is too large for a student teacher to handle when she begins her practice work. So, for the purpose of approximating working conditions in rural schools, and as a matter of expediency, the size of practice classes should be reduced in many schools.

In attempting to draw conclusions from this study one is confronted with the fact that the problem of training rural teachers effectively has not as yet been solved. There is too great a diversity of procedure to enable one to picture conditions as they should be. It is evident that the various agencies for carrying on the work of training rural teachers have not co-operated in a way that would enable each to profit by the other's experience. Yet many facts stand out which are of value for comparative purposes.

With reference to Observation, experience shows the advisability of beginning it as early in the course as possible. Stress in observation is laid on reading, arithmetic, and language. The work in rural schools should be observed in as great quantity as possible. Before students begin their practice teaching in any subject, they should observe the work in that subject under the regular classroom teacher for some time. Practice work in one subject at a time extending over a period of at least 20 weeks is more valuable than practice in several subjects at the same time for a shorter period. This practice work should include teaching in arithmetic, reading, and language for all students in some one or more of the first six grades. Classes taught by student teachers should not be larger than 6 to 8 pupils. Co-operation between county superintendents and such training schools, co-operative studies carried on by a number of schools, unity of aim and harmony in administration, are required for the successful solution of this important problem.

THE ARLINGTON PLAN OF GROUPING PUPILS ACCORDING TO ABILITY IN THE ARLINGTON HIGH SCHOOL, ARLINGTON, MASSACHUSETTS

FREDERICK E. CLERK
Seattle, Washington

THE PLAN

This plan is designed to provide a method for grouping together pupils of about the same ability, as determined by the teachers' observations and the pupils' grades. The grades used for making the determinations at the beginning of the year are the grades of the previous year in the same or a similar type of subject. At the end of the first two months of the year pupils are redistributed among the groups where it seems that they have been misplaced. Changes are made every two months thereafter throughout the year whenever it seems necessary. In practice few changes have been found necessary after the first two months.

There are three classifications in every subject in which the plan is used, rated as (1) honor, (2) medium, and (3) slow. Whenever there are less than three classes in a subject, they are rated the same as if other groups existed, that is, they are called either honor, medium, or slow, according to the character of the work they are doing. In these groups the pupils who vary from the type of the group are treated according to their individual variations, as they would necessarily be in a more heterogeneous class where no attempt is made to select the groups on a basis of individual ability, but where a definite attempt is made to treat the pupils according to their individual capacities. The plan is applied to the classes in mathematics, languages, history, commercial subjects, and sciences. It is not attempted in the laboratory classes, such as mechanic arts, physics, chemistry, household arts, bookkeeping, drawing, etc., where the instruction is largely individual. It is applied in some of the latter classes where they receive group instruction.

The grades given to the pupils represent actual achievement within the limits in which they occur. Since January, 1916, a subscript has been given with the grade to indicate the group in which it was given; as, A₁ means A in an honor group, D₃ means D in a slow group, etc. The grades represent the following values: A, 90-100 per cent, inclusive (excellent work); B, 80-89 per cent, inclusive (good work); C, 70-79 per cent, inclusive (fair, passing work); D, 67-69 per cent, inclusive (doubtful, passing work); and E, less than 67 per cent, failure.

The honor groups do more work in a given subject than the medium and slow groups. The latter two are expected to cover at least the minimum requirement for promotion. The work done by the medium and slow groups is about the same as that required of a regular class, based on traditional methods of selection. In order to earn promotion in any group a pupil must have an average better than D. Marks below B are seldom found in the honor groups and seldom above C in the slow groups. No college certificate is given in a subject in which the average for the year is below B₂, and a certificate is not guaranteed even with this average.

The method of instruction is varied to suit the caliber of the groups. In the first groups the assignments are longer, the work in the class is more rapid, less emphasis is given to instruction and drill, the instruction is less formal, the classes are larger, and the classroom work is more class work than individual. In the lowest groups, which are smaller than the others, the work is as largely individual as the size of the classes will permit.

The mechanical part of segregation commences in April for the following year, after the registration cards are filled out by the pupils, approved by the parent, and teacher adviser, and passed to the office for the principal's approval. After determining the number of classes in each subject, the pupils' names by years (i.e., Freshman, Sophomore, etc.), arranged alphabetically, are written on long slips of paper ruled as follows: first column, the pupils' names followed by several half-inch columns for subjects. This makes a small space about one-half inch square after each pupil's name and under each subject that he takes. A small x mark is placed after each pupil's name in each square under subjects taken

Mechanics

by him. These long slips are then sent to every teacher who has had the pupil during the past year in the same or a similar subject. The teacher then marks 1, 2, or 3 in the square opposite the pupil's name and in the column belonging to his subject to indicate the group in which the teacher thinks the pupil should be placed. The slips are then returned to the office. Then comes the most difficult task of all, viz., arranging the program of recitations for the entire school, giving each teacher his special subject, avoiding conflicts of subjects, and reducing to a minimum the possibility of conflicts in grouping pupils according to ability.

It is important to note that pupils are divided according to ability, by subjects, for while it is generally true that pupils who are in the first group in one subject are in the first group in most subjects, it does not always follow; e.g., a pupil may be in the first (honor) group in Latin and at the same time in the third (lowest) group in geometry and in one of the medium groups in English. A pupil, to remain in an honor group in any subject, must maintain a mark of A or B, though he may be required to remain in an honor group if the teacher is reasonably certain in his judgment that the pupil's ability is commensurate with the demands of the group. When the circumstances seem to justify it, however, a pupil may be put "on trial" in any honor group in which he happens to be; if he should fall below passing in any subject in any group it is with the understanding that he may be demoted from his honor group if he is not able to pass all his subjects in his respective groups, the idea being that it is better for the pupil to put less time and energy on the one subject and more on the others with the hope of passing in some group in all subjects. This arrangement tends to prevent overreaching or undue concentration on one subject at the expense of others that are equally important.

Seventy points are required for graduation (a point is equivalent to one prepared recitation per week for 40 weeks). No pupil can continue taking over 23 points a year unless he maintains a standing of A or B (80 per cent, or better) in all subjects. Every year some pupils are graduated who have completed the four-year course in three years. Pupils are not allowed to sacrifice quality of work for variety or quantity.

THE AIM OF THE ARLINGTON PLAN

The aim of the Arlington plan is to meet the situation referred to by Dr. Monroe,¹ who says:

It is obviously true that the American schools, in emphasizing the democratic purpose, have minimized the selective function of the secondary school. *The tendency in our own schools is to devote more attention to the sub-normal or to the mediocre than to the super-normal.* It would be entirely possible to preserve both the democratic and the selective functions of the secondary school if the false democracy which demands uniform treatment for all were replaced by the practice of *differentiating students according to their interests, subject-matter according to its social significance for the student taking it, and methods according to the individual abilities of the students.*

The differentiation of the courses of study into technical, college, general, commercial, and household arts courses meets the demand for differentiation of the students according to their interests, and of the subject-matter according to its social significance for the student taking it. This is a common practice now among secondary schools. It is the third factor referred to by Dr. Monroe, however, that the Arlington plan is especially designed to meet, viz., *the differentiation of method according to the individual abilities of the students.* The differentiation in method is perforce accompanied by some differentiation in the quantity and quality of the subject-matter taught. The Arlington plan, therefore, aims to *provide for the intellectual wants of pupils according to their ability.*

DISCUSSION OF THE CLAIMS MADE FOR THE ARLINGTON PLAN

On the basis of six years' operation of the plan in the Arlington High School, together with a thorough analysis of the grades given in all subjects for two years by two-month periods, and a comparison of the grades of one year with the grades of the same year in a neighboring high school, the claims for, and objections against, the plan are either refuted or justified as follows:

1. *It stimulates most pupils to work.*—The stimulus is certainly present for the first groups and for those who have a chance of getting into the first groups; it is active among those in the lowest groups who, experiencing a sensation of progress, are encouraged

¹ P. Monroe, *Principles of Secondary Education*, p. 9. Italics not in the original.

to greater effort. There are some in the middle group, however, who seem content to remain where they are, satisfied with the minimum passing mark and lacking the necessary ambition either to get into the first group or to make a better grade in the middle group. It is doubtful whether these latter pupils would be stimulated to maximum effort under any other system; it is certain that they are not under the Arlington plan. The sweeping claim that all pupils are stimulated to greater effort is not justified but the claim that the Arlington plan provides an added stimulus over the traditional method of grouping pupils has been unquestionably established.

2. *The temptation to teachers to concentrate a recitation among the brighter pupils of the class is removed.*—To a certain extent this is true. The extent is measured by the homogeneity of the group. It would not be a virtue of the plan if all of this temptation were removed, for, if there were no variation in mentality among the individuals of the class, the stimulus afforded by the brighter pupils would be lost, the opportunity for developing leaders would be practically non-existent, and many valuable factors of teaching practice would be handicapped. The matter of this temptation to have the brighter pupils do all the reciting lies largely with the individual teacher. It is certainly true that less damage is done by this practice under the Arlington plan than in most high schools, because the recitations of the brighter pupils of a group are practically always within the scope of the ability of the other members of the group. This is not true in groups where the variation in ability is great. It would then be more justly claimed that less damage is possible by this tendency on the part of teachers to concentrate the recitation among the brighter pupils in the Arlington plan where the differentiation within the group is less, than in the groups where the differentiation of ability is greater.

3. *The net amount of work is greater than under other plans.*—The first groups do more than the work required for promotion and the other groups do as much as is required for promotion or graduation in the ten high schools around Boston with which the Arlington School has been compared. A comparison of the courses of study of ten large high schools in the environs of Boston with the Arlington

High School shows that the Arlington School is offering about the same subjects and covering as much of them as the others. As a matter of interest it was noted that in some courses, especially the college and technical, the work was almost identical among these schools. As over 50 per cent of the graduates of the Arlington High School go to college, it is evident that a large part of the work is quite definitely determined. The school has the college certificate privilege wherever it is granted in New England. To the extent in which the work of the first groups is more than that of the others and to the extent in which elimination and failure is reduced (as will be discussed later) may be measured the greater amount of work accomplished under the Arlington plan.

TABLE I

COMPARISON OF PUPILS FAILED AND ELIMINATED IN SEVERAL GROUPS OF SUBJECTS

	English	Latin	Science	History	Mathematics	Commercial Subjects	German	French	Average
Failed:									
Illinois schools*	8.5	9.3	11.1	9.3	15.3	9.6	7.8	5.5	10.1
Arlington.....	5.2	4.9	5.0	8.4	10.6	8.6	5.6	6.1	5.2
Eliminated:†									
Illinois schools*	7.9	10.2	12.6	11.8	13.4	10.8	10.1	7.7	10.6
Arlington.....	7.8	9.0	8.2	12.6	15.7	8.7	3.1	12.5	11.8
Totals:									
Illinois schools*	16.4	19.5	23.7	21.1	28.7	20.4	17.9	13.2	20.7
Arlington.....	13.0	13.9	13.2	21.0	26.3	17.3	8.7	18.6	17.0

* *School Review*, XXI, No. 6, 1913, 415.

† Eliminated is interpreted to mean those who left school or dropped a subject for any reason.

4. *Fewer failures are the result of this plan.*—A careful search of the literature available reveals but little of statistical value. Table I represents a comparison between the Arlington High School, and a group of high schools in Illinois. It represents those who failed and those who were eliminated in one year.

Apparently the figures given in Table I show that the total elimination and failure is less under the Arlington plan than under the ordinary plan. The elimination is apparently greater in the Arlington School by a little over 1 per cent, but the failures are about one-half those in the Illinois schools. The low number of

failures in Arlington is partly accounted for by a rule that requires a pupil to drop a subject after failing in it four consecutive months. While he is actually a failure, he is counted as eliminated. This would have a tendency to increase the number of those eliminated and reduce the number of failures at the end of the year. The relative values of these factors as between the two sets of statistics is not very significant, but the total failure and elimination seems to argue in favor of the Arlington plan.

TABLE II

COMPARISON OF PUPILS FAILED IN PATERSON AND DENVER HIGH SCHOOLS WITH PUPILS FAILED *and Eliminated* IN ARLINGTON HIGH SCHOOL

	English	Ancient Language	Modern Language	History	Mathematics	Commercial Subjects	Science	Average
Paterson*	14.9	15.9	22.8	11.5	23.6	12.4	18.8	16.1
Denver†	13.8	16.5	15.2	14.5	21.4	10.5	13.9	15.6
Arlington	13.0	13.9	15.1	21.0	26.3	17.3	13.2	17.0

* Report of School Department, 1914, Paterson, New Jersey.

† Report of School Department, 1913, Denver, Colorado.

Table II represents the total elimination and failure in Arlington for one year, in percentages, as compared with the failures at the end of a year's work in the Paterson and Denver high schools, in which two cities no mention is made of those eliminated. It will be seen that Arlington has a lower total percentage *failure and elimination* than either of these cities have of failure alone, in four out of seven groups of subjects. In the total average, Arlington is within 1.5 per cent of Denver and 1 per cent of Paterson. It seems reasonable to assume that the normal amount of those eliminated would raise the figures for Paterson and Denver to a point where the comparison would be very favorable for Arlington. As far then as statistical comparison of this matter is possible, the indications seem to be that the Arlington plan tends to reduce the total failure and elimination.

5. *The ratio of improvement in this plan tends to be greater than in other methods of grouping.*—The data on this point are taken from a study of the Arlington plan made by Mr. Richard P. Bonney in 1915, in which he compared a neighboring school with the Arling-

ton High School, making his comparison chiefly on the basis of the ratio of improvement of the several studies. Referring to the Arlington School, he says: "The average ratio of improvement for the five studies on the differentiated plan was 0.91 while the ratio for the studies not under this plan was 0.38. A noticeable difference existed within the school in favor of the studies operated on the Arlington plan." He observed a similar though not so great, difference between the same groups of studies in the other school investigated, in which none were on the Arlington plan. Owing to the many factors that entered into this study, due chiefly to the difference in the size of the schools and a different system of grading, it is not possible to accept this comparison as final. It seemed to indicate that the Arlington plan was better for the highest and lowest groups, but not so good as the *laissez faire* method for the middle group. The claim that the ratio of improvement in the Arlington plan is greater than in other plans has yet to be substantiated. It is doubtful if it ever can be proved conclusively, as so many factors other than the grouping will affect this ratio.

6. *The possibilities of discovering unusual ability of pupils for special subjects are greatly increased.*—Under the Arlington plan it is necessary for the teachers to keep constantly in mind the individual differences and characteristics of the pupils, because they must report on them in order to keep the groups properly distributed. Under the usual *laissez faire* method the teachers are required to give no definite attention to these matters, and it is left to the individual teacher to discover a pupil's special qualities and to encourage them at his own initiative outside of the regular school program. Some teachers have little capacity or inclination for this "missionary work," and the pupils suffer accordingly. Under the Arlington plan the "missionary work" becomes a part of the regular school organization, and the teacher who would not find it possible to consider the individual variations in his class under the traditional method of grouping is sufficiently guided and stimulated by the administration of the Arlington plan, not only to aid efficiently in determining the capabilities of pupils, but finds his work lightened by the better organization in his classes.

Under this same heading it is to be observed that the pupils themselves are encouraged to self-analysis, and many conferences are held between teachers and students, the aim of which is to help the pupil to "discover" himself. A system of pupil advisers has been developed to supplement this feature of the plan. The adviser, the teacher of the subject in which the pupil is to be grouped, the pupil himself, and often the pupil's parents are involved in the process of grouping the pupil according to his ability. With these organized attempts to "discover" him it is certain that the opportunities of getting definite, reliable results are greatly in excess of the chances under a *laissez faire* method. It is a matter of a definite method versus no method at all.

It has been objected in this connection that the pupils are not qualified to pass judgment on their own abilities. The Arlington plan has provided means for directing the pupil's judgment and training it with the aid of his teachers. No scheme ever developed will prevent pupils from passing judgment on their own qualifications. It would be unfortunate if such a scheme existed. Since pupils will estimate their own qualifications, and since reliable knowledge on this matter is essential to the full measure of success in life, it may be argued that a plan that encourages introspection on the part of the pupils and attempts to guide them in the exercise of this function is more nearly meeting the demands of a well-rounded training than any scheme which omits it.

7. *It stimulates an increase of interest in the school on the part of parents, friends, and pupils.*—The attention given to the analysis of the capabilities of pupils in Arlington has had the effect of bringing the parents of the pupils and other citizens of the town in close touch with the school. Parents know that their children are being grouped on a basis of ability, and the majority of parents are co-operating with the school and accepting the judgment of the school, with gratitude. A small but negligible number have felt wronged when their children were classified with the lowest groups. Whether the interest on the part of parents is sympathetic or not, the essential fact to be noted is that interest is aroused. After one or two conferences unsympathetic interest usually disappears.

The citizens of the town, particularly employers of young people, have come to regard the school as a place where they can get exact and reliable information concerning prospective employees. This is, of course, true of most secondary schools to a certain extent, but it has developed rapidly in Arlington under the present grouping system. The process of getting the information necessary for grouping pupils has brought out many other facts of value concerning the pupils and has led to a special form of permanent record card which not only contains the attendance and scholarship records, but makes a yearly memorandum of the pupils' honesty, neatness, punctuality, reliability, bent, future plans, home conditions, special interests, health, and miscellaneous data. This record is made out yearly by the pupils' adviser, with the aid of other teachers. It may be said that the Arlington plan tends to make the school office a clearing-house for all information that will lead to the most reliable analysis, instruction, and placement of each of its pupils.

8. *The initiative of pupils is increased.*—In addition to the stimulus to work as discussed in subhead 1 of this section, there is developed an increase in initiative in the lowest groups that is of inestimable value, particularly to the pupils who are lowest in ability. Pupils who find it embarrassing, if not impossible, to recite in a middle or high group, feel little or no discomfort in reciting in a group where they realize that the danger of ridicule (real or imagined), because of the superior knowledge of other members of the class, is eliminated. Children of secondary-school age are supersensitive to ridicule, and many a pupil has been seriously handicapped because of untimely criticism by a teacher or, what may be even more effective, the thoughtless ridicule of a classmate. In all the groups under the Arlington plan there seems to be a freedom of student participation in the exercises of the classroom, which, while it may not have been directly the result of the Arlington plan alone, at least is encouraged and developed by it.

9. *The percentage of elimination is reduced.*—According to the statistics on p. 32, it would appear that Arlington compared unfavorably with other secondary schools in the matter of elimination. It was explained that a special rule, peculiar to Arlington,

would tend to increase the number of eliminations by subjects. The fact that a failure for four consecutive months makes it necessary for a pupil to drop a subject means a large percentage of subject elimination. Table III presents the percentages of elimination (those who left school for any cause) for each class in the Arlington High School since the class that entered in 1903 and graduated in 1907. The table is arranged in groups of three years each. The first three years represent the rate of elimination before the present grouping plan was adopted. The other three-year groups show the rates of elimination and graduation since the plan has been in

TABLE III
PERCENTAGE OF GRADUATION AND ELIMINATION IN ARLINGTON HIGH SCHOOL

When Entered	When Graduated	Number Entering	Number Graduating	Percentage Graduated	Percentage Eliminated	Three-Year Period
1903.....	1907	65	16	24.6	75.4	Percentage graduated, 33.5 Percentage eliminated, 66.5
1904.....	1908	72	29	40.3	59.7	
1905.....	1909	72	25	34.7	65.3	
1906.....	1910	82	35	42.9	57.1	Percentage graduated, 50.5 Percentage eliminated, 49.5
1907.....	1911	86	47	54.3	45.7	
1908.....	1912	113	60	53.1	46.9	
1909.....	1913	112	68	60.7	39.3	Percentage graduated, 58.8 Percentage eliminated, 41.2
1910.....	1914	114	78	68.4	31.6	
1911.....	1915	175	90	51.4	48.6	

force. A steady increase in the percentage of each class to remain and graduate, and a corresponding decrease in the percentages eliminated characterize the figures. In the three years immediately preceding the adoption of the Arlington plan, a variation in the ratio of the percentage is noticeable. No explanation for this is available. Since 1910, however, there has been a steady increase in the percentage graduating, with two exceptions—a decrease of 1.2 per cent in 1912 and of 17 per cent in 1915. There seems to be no explanation for the drop in 1915, except that the class contained an unusual number of poor-quality students who were near the dropping-out line, and during its third and fourth years was

greatly handicapped by an overcrowded school and by a two-session plan which divided the school day to accommodate the entire enrolment.

Table IV presents a comparison which seems to argue that the Arlington plan does tend to reduce the percentage of elimination. It is difficult to find any other way to explain the decrease in elimination in Arlington since the plan was adopted. Indeed, there seem to be some reasons why the trend should be in the other direction. During the past few years the town has grown from a wealthy, steady, independent, conservative town of few changes, to a Boston suburb influenced by the atmosphere of the metropolitan district,

TABLE IV

PERCENTAGES OF PUPILS OF ENTERING CLASSES ELIMINATED AND GRADUATED IN REGULAR FOUR-YEAR HIGH-SCHOOL COURSE, ACCORDING TO DR. E. L. THORNDIKE, DR. L. P. AYRES, AND DR. G. D. STRAYER, COMPARED WITH ARLINGTON DURING THE THREE YEARS BEFORE, AND SIX YEARS FOLLOWING, THE ADOPTION OF THE "ARLINGTON PLAN"

	DISTRIBUTION OF PUPILS IN RECITATION GROUPS WITHOUT REFERENCE TO INDIVIDUAL ABILITY				DISTRIBUTION IN CLASSES ACCORDING TO ABILITY OF PUPILS	
	Thorndike	Ayres	Strayer	Arlington 1907-9	Arlington 1910-11	Arlington 1912-13
Eliminated . .	70.0	75.0	67.0	66.5	49.5	41.2
Graduated . .	30.0	25.0	33.0	33.5	50.5	58.8
	100.0	100.0	100.0	100.0	100.0	100.0

subject to many residence changes accompanied by an influx of people of moderate means who are just able to send their children to high school, among whom the percentage of elimination would tend to be high.

Until the current year the program has been enriched only with the commercial course to appeal to any special aptitudes or interests of the pupils or to those who see a vocational opportunity in the high school. The influx of new residents has added to the enrolment, to a certain extent, after the first school year, but not enough to affect the relative values of the above percentages.

The figures presented by Thorndike, Strayer, and Ayres are estimates based on a wide field of observation covering many high

schools, and represent what may be called an average condition. Evidently the situation in Arlington six years ago was about the average, but since that time there has been a tremendous change, elimination dropping from 66.5 for the three years 1907-9 to 41.2 per cent for the three years 1913-15, and graduation showing a corresponding increase. While undoubtedly many factors that are undeterminable at the present time are more or less responsible for this change, it is reasonable to suppose, in view of the figures presented from the other sources, that the plan of grouping pupils according to ability has had its influence.

DISCUSSION OF THE OBJECTIONS MADE AGAINST THE ARLINGTON PLAN¹

1. *There is danger of overreaching in the crowding of bright pupils.*—This objection is more imaginary than real. It is hardly adaptable to statistical verification or denial, but the report of Mr. Fred C. Mitchell, who introduced the plan at the Arlington High School and continued it there for six years, is to the effect that this overreaching of pupils, or the attempting to do more than they are able, is no more of a danger under this plan than under any other, provided there is reasonable watchfulness on the part of the teacher, and that the school is reasonably solicitous concerning the mental hygiene of its students. That additional stimulus is given to the ambition of the pupils is evident, and in the case of the few already ambitious the extra stimulus probably would result in overreaching if there were no teachers effectively to guide the ambitious. It has been my own observation in Arlington that, owing to the fact that the attention of the teacher is officially, and more or less constantly, directed to the matter of the pupils' ability, the matter of the pupil working within his limits receives more and better attention than it otherwise would receive at the hands of the average teacher.

2. *There is danger of reducing the work of the lowest division to a point where progress is too slow and stagnation sets in.*—This is a

¹ These objections were raised by members of the Massachusetts High School Masters' Club at a meeting in Boston, Massachusetts, where the Arlington plan was presented for discussion by Mr. Fred C. Mitchell.

matter the control of which is not inherently bound up in the Arlington plan, but it is a matter of administrative efficiency such as it would be in any system. If a group were so slow as not to be able to do the work required by the course of study when separated in smaller groups and instructed by a method more nearly fitted to their needs than they would be in the usual secondary-school group, then it is obviously true that the pupils are attempting work that is clearly beyond them, and they would have to do as pupils do who fail under other circumstances. The Arlington plan does not permit any group to do work of a quality or quantity less than that required as the standard for the school. Those in the third group in any subject must do as well in order to pass as those in the middle group, but not as well as those in the first group. The difference between the middle and the lowest group lies in the difference of the method of instruction and in the size of the class. Under these favorable conditions adapted to the needs of the slower pupils, most of them are enabled to reach the standard required for passing. Stagnation is less possible in the Arlington plan than in the usual distribution of pupils because the work is less often so far beyond a pupil that progress is impossible.

3. *Dull pupils are deprived of the stimulus of contact with keener minds.*—If the groups were absolutely homogeneous, this would be a justifiable criticism, but they are not. They are less heterogeneous than high-school classes usually are, but they are not so homogeneous that there are no individual differences within the group. There are always those at the top and those at the bottom of the groups, no matter how homogeneous they become. It has been my observation that under the Arlington plan there is an added stimulus to that afforded by the presence of the keener intellects within the groups, viz., the stimulus afforded by the chance to make a place in a higher group.

4. *Frequent transfers disturb the organization of the school.*—This would be true if the transfers were frequent, but it is found that once the plan has been thoroughly established, frequent transfers are not necessary. The organization of the school is disturbed at the end of the first two-month period when most of the transfers occur, but I am inclined to believe that the increased effectiveness

of the organization after the transfers are arranged justifies the disturbance while they are being made. Occasional changes are made throughout the year, but not enough to cause any disturbance noticeable in the organization of the school. A careful grouping at the start assures a fairly constant distribution. Pupils do not change much in ability, though our judgment of their ability is not always accurate. It is usually a mistake in judging a pupil's ability that makes a change from one group to another necessary. Pupils rarely, if ever, change from a higher to a lower group because of a real change in ability, but they often change from a lower to a higher group apparently because of a change in ability, but probably because of a change in ambition or effort.

5. *Transfers to lower groups tend to discourage those transferred.*—This objection seems to be substantiated by my observation. Pupils who have been transferred to lower groups have shown discouragement and disappointment when changed. Usually this discouragement has been but temporary, and has been easily dissipated by an explanation of the advantages of working in a group within one's limitations. It is my own conviction that the discouragement occasioned by these transfers is less damaging than the discouragement which accompanies the knowledge on the part of a pupil that he is in a group that is doing work beyond his powers and which is progressing at a rate faster than he can go. The element of discouragement to the conscientious, but incapable, student is present in any system of promotion or grading. The total amount of discouragement, if it is to be measured by failure and elimination, is less in the Arlington plan than in the plans of grouping that are in common use.

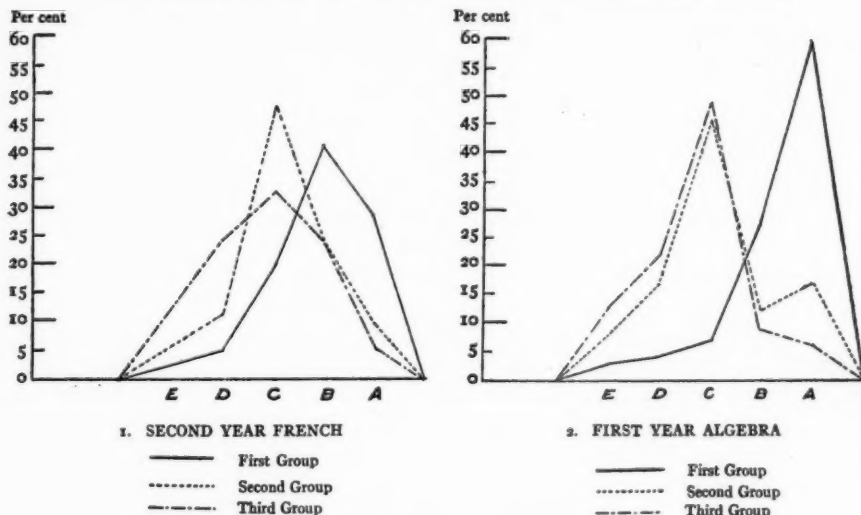
6. *Pupils in lower groups tend to underestimate themselves.*—This tendency has not yet become apparent in the Arlington High School. It is a difficult matter to determine. Little is known of just what the average high school pupil does think of himself. It has been said waggishly, but with a tendency to truth which seems to be self-evident, that "you can always tell a high-school pupil—but you can't tell him much." Possibly any influence that encourages pupils to underestimate themselves may be desirable. This much, however, has been observed at the Arlington High School,

that pupils in the lower groups apparently have a more nearly exact estimate of themselves than pupils in the other groups. There is a tendency to overestimation in the upper groups rather than a tendency to underestimation in the lower classes. This is the real criticism, if any of this character is valid. I consider it unimportant, however; it is one of the evidences of youth and has been observed even in Sophomores at college.

7. *It establishes a "caste" system which is undemocratic.*—As a matter of fact, pupils do not select their friends on a basis of scholarship. There is no evidence in the Arlington High School that the pupils of any one group have any different feelings toward the pupils of other groups than they have among themselves. The incidental associations in the classrooms naturally contribute their share toward the making of friendships, and in so far as these associations are the result of the plan of grouping, the plan is responsible. Pupils are likely to make their friends among those who are congenial among their classmates. As their classmates are selected by a standard of ability, it is true that the friendship groups under the Arlington plan would tend to show a uniformity as to mental ability, just as in other systems they would tend to show a uniformity based on the particular method of selection. The "extra curricula" activities of the school, however, are fully as varied as those in the average large high school, and in all the student elections there has never appeared any evidence of the influence of any particular scholarship group. The leaders in scholarship are not always the leaders in student life. Evidence of this fact is revealed by the necessity of a rule which requires the faculty approval of all elections made by the students in all student activities. This rule was found necessary owing to the tendency of the pupils to elect popular, but otherwise incompetent, pupils to positions of responsibility in student activities.

8. *The groups are so homogeneous that leaders in them are not developed.*—This objection is adequately refuted by the conditions in the Arlington High School. The homogeneity of the group as to mental ability is a safeguard against the dangers of leadership too highly developed, in which the leaders get so far beyond the rest of the class that all hope of ever doing as well as the leaders is

lost. This danger is minimized under the Arlington plan, and the hope of catching the leaders is always a stimulus to other members of the group. It would be quite impossible to select a group of about twenty pupils so homogeneous that there would not be some individuals in it who would stand out as the head of the group in mental ability. As shown under subhead 2, p. 30, the stimulus afforded by the greater homogeneity of these groups develops rather than retards the factors that stimulate leadership and keep



DIAGRAMS 1 AND 2.—Graphs showing the relative percentages of A's, B's, C's, D's, and E's in different groups in French and algebra.

NOTE.—A is the highest mark in scholarship, E the lowest.

the process active. The graphs accompanying this section indicate, not only sufficient heterogeneity within the group, but also the possibilities of active competition for leadership. The graphs represent the actual distribution in the three groups in algebra and French, based on the grades received during the report period of January to February, 1916. The distribution presented is typical of the situation in all subjects where grouping according to mental ability is practiced.

9. *It is expensive because of the increased number of teachers needed.*—The matter of expense is a relative factor, and if extra teachers were needed, the increased efficiency, the low percentage of failures, and the low percentage of elimination would serve to show that probably the net cost per unit was less than under the traditional plans of grouping. As a matter of fact, however, no increase in teachers has been found to be necessary for this plan in the Arlington High School, which has an enrolment of about 670 pupils. There are 25 regular teachers on the staff which makes a teacher-pupil ratio of 1 to 26. The program of studies is reasonably diversified, embracing the following subjects: English, 4 years; Latin, 4 years; French, 3 years; German, 3 years; algebra, 2 years; geometry (plane), 1 year; geometry (solid), 1 year; history (American, ancient, English, Roman, Greek, modern), each, 1 year; physics, 1 year; chemistry, 1 year; biology, 1 year; physical geography, 1 year; typewriting, 3 years; stenography, 3 years; commercial law, 1 year; commercial geography, 1 year; commercial arithmetic and penmanship, 1 year; economics, 1 year; bookkeeping, 2 years; drawing (freehand), 4 years; drawing (mechanical), 2 years; manual training, 4 years; music, 4 years; and physical training, 4 years. The distribution of pupils among the classes by subjects is as follows:

There are 8 subjects in which the classes contain 13 to 19 pupils

"	"	9	"	"	"	"	"	"	20 to 24	"
"	"	7	"	"	"	"	"	"	25 to 29	"
"	"	3	"	"	"	"	"	"	30 to 34	"
"	"	4	"	"	"	"	"	"	35 to 40	"

There is evidently no support for the contention that the classes are demanding the services of extra teachers or that they are too small in size to be economical; further, there seems to be nothing inherent in the Arlington plan that would increase either the net or the gross cost of teaching or administration.

10. *It is impossible to develop the program completely because of conflicts.*—It would be a difficult matter for anyone to say what is or what is not possible with a high-school program. Those who have had experience with them realize how intricate and yet how elastic they may be. Mr. Fred C. Mitchell, during the sixth year

the plan was in operation while he was principal of the Arlington High School, was able to place all the pupils in the groups where they belonged in all subjects operating under his plan, except in 29 instances. As there were 580 pupils in the school at that time, and only 29 of them were not in their proper groups, it would seem that the plan was in full operation with the exception of 5 per cent. My experience leads me to believe that this percentage of conflicts could be lowered but little in any system of selection. This small number of pupils not in their proper groups was provided for in such groups as their programs would permit, the teacher giving them some extra individual attention. Since September, 1915, all the changes required were made but about 16 per cent. This large difference is accounted for by the moving of the school into a new building, an unexpected increase in the enrolment, the introduction of two new courses requiring double periods, a change in the principalship, and the fact that the program had to be made out by one who was unfamiliar with the pupils. When the program for the next year is made out, much data will be available that will make it possible to prepare a more elastic program.

Under the head of the program difficulties comes the following contingency which must be provided for by special arrangement. In second-year German there may be 50 pupils, enough for three groups. When these pupils come to third-year German the following year, enough may have dropped out to leave about 36 or 40 pupils, still enough for two groups or possibly three. When they come to fourth-year German in the next year there may be but 24 to 28 in the class, enough for one large group, but too few to be divided into two or three groups, especially when 20 of them may belong to the first group. It is then impossible to apply the segregated grouping-system absolutely, and the pupils must be handled as one class of two groups, giving the better group more to do in proportion to the less efficient. A resourceful teacher will be able to meet such a situation and carry out the purpose of the plan successfully. This variation of the plan is in operation in three classes in Arlington.

When the plan of grouping pupils according to ability is first put into operation in a school that has used another system of

grouping, the program difficulties are colossal, and I am prepared to say that there is little prospect of getting more than 70 to 80 per cent of the pupils into the divisions where they belong. Under any plan of grouping it is difficult enough to avoid conflicts and keep the classes of nearly uniform size; when you add to the difficulties already existing the additional ones experienced in making it necessary to put pupils in certain groups, the difficulties are greatly increased. I am not prepared to admit that after the plan has been in use for two or three years the program cannot be worked out, though I am certain it will have to be compromised for a time until some of the fundamental difficulties have been met and solved, which can be done only by actually putting it into operation as far as is possible.

11. *Teachers cannot differentiate the work to meet the requirements of the several groups.*—This criticism is not supported either by my experience or by that of Mr. Mitchell. The aim of the teacher is always to carry the group along as fast as it can go. The amount and quality of the work is determined by the group and the teacher. Groups rated as equal are certain to differ more or less, and no two teachers will handle the same groups with the same method. It is impossible to plan the course of study within such narrow limits as to prescribe what shall be accomplished by each group. The best that can be done is to set the minimum for passing, and say that the first groups will go as far beyond it as they are able and the others must at least complete it in order to earn promotion, the difference in the groups being indicated by the difference in methods required to bring them up to the standard, the slowest groups working in classes of smaller numbers.

Any teacher who is qualified at all to teach in a secondary school should be able to determine the caliber of the group he is teaching and govern his methods accordingly. Under any system of grouping there will be a difference in the quality of the groups. The law of chance will sometimes put a large majority of bright or dull pupils in one group. Every teacher of experience knows to how great an extent classes differ and how they have changed the character of the instruction and the government of the classes to meet the difference. In the Arlington plan this difference in groups is

in part controlled, and more than usual attention is given to the matter of the method of instruction for the various groups.

CONCLUSIONS

1. There is no more danger of overreaching on the part of pupils in the Arlington plan than in any other.
2. The danger of stagnation in the lowest groups is not inherent in the plan.
3. Dull pupils are not deprived of the contact with keener minds, but find the contact more stimulating under the Arlington plan, as there is less difference between the brightest and dullest of a group than there would be in a chance distribution.
4. The transfers of pupils during the school year are a source of disturbance to the school, but the advantages to be gained justify the inconvenience.
5. There is no tendency to discouragement on the part of pupils transferred to lower groups that is serious or permanent.
6. Pupils in lower groups are not inclined to underestimate themselves.
7. There is no evidence that it tends to establish a "caste" system among the pupils.
8. The groups are not so homogeneous that leaders are not developed. On the contrary, there is much competition for leadership, the chances of leadership are now more widely distributed, and the leaders have no chance of becoming arrogant, because there is so little difference between them and their classmates.
9. As the plan has operated in Arlington, there is no increase of expense due to a demand for extra teachers.
10. It is not impossible to put the plan on a working basis because of program conflicts, though it is difficult the first year or two. Some conflicts are inevitable, as in any program. The larger the school, however, the less the difficulty. Any part of the plan in operation is a gain over the *laissez faire* method. It is best put into operation by beginning with certain subjects, one or two at a time; e.g., mathematics and modern languages.

11. There is a problem in the differentiation necessary to meet the demands of the different groups. Teachers of the most efficient kind are necessary for the success of the Arlington plan.

12. The plan does act as a stimulus to the pupils, resulting in more intensive work than under another plan.

13. The homogeneity of the group results in a great saving of lost motion in the teaching, most, or all, of the instruction being within the capacities of the pupils of the group. It also tends to remove the temptation to concentrate the recitation among the brightest pupils in a class.

14. Fewer failures are the result of the Arlington plan.

15. The percentage of elimination is reduced by the Arlington plan.

16. Pupils improve at a more rapid rate under the Arlington plan.

17. The opportunities for discovering special abilities of pupils are increased.

18. The Arlington plan tends to bring parents into closer touch with the administrative office of the school.

19. The initiative of pupils, especially in the lowest groups, is increased.

20. No matter how homogeneous as to ability we make a group of secondary-school pupils, there will be enough variation within the group to meet all the demands claimed for group instruction. The more homogeneous we are able to make the groups, the greater is the efficiency possible in the instruction. As far as these factors go the Arlington plan is commendable. Its chief weakness lies in its mechanical difficulties, and this is a matter of degree. A complete program for every pupil with the plan working in every subject is, as far as I have been able to observe, an impossibility.

21. The extent to which this plan can be developed in any school will depend upon the size of the school, the pupil-teacher ratio, the variety of subjects offered, the number of classrooms, the length of time the plan has been in use, the ingenuity of the maker of the daily program, and the co-operation of the teachers.

EDUCATIONAL NEWS AND EDITORIAL COMMENT

THE CHICAGO DINNER

Former students and graduates of the University of Chicago who expect to attend the meeting of the Department of Superintendence in Kansas City in February are reminded of the annual dinner which is held at this meeting. The dinner will be given at the Hotel Muehlebach on the evening of Tuesday, February 27, at six o'clock. The price will be \$1.50 per plate. Tickets can be secured in advance by writing to Dean W. S. Gray at the School of Education, or tickets will be supplied at the time of the dinner to all who have signified by Tuesday morning their intention of being present.

EDITORIAL ANNOUNCEMENT

The field of secondary education is expanding. No one who is interested in the problems of high-school education can escape contact with the work of the upper grades. Furthermore, the methods of scientific study of school problems recognize no sharp division between lower schools and higher schools. The high-school teacher is driven accordingly to take into account all the scientific studies made by workers in the elementary field. Indeed, so much more rapid has been the progress of standardization and measurement in elementary subjects than in high-school subjects that those who would perfect scientific tests are offered better examples in the elementary field than they can find in the secondary field.

This abstract introduction is the preface to the editorial announcement that the *School Review* has entered into a closer affiliation than ever before with the *Elementary School Journal*. The closer union will not carry the *School Review* out of its own proper field, which is the discussion of high-school problems, but the *Review* will aim to co-ordinate its work more fully with that of the other journal.

The combination is undertaken with a view, first, to insuring a more complete review of the literature of education. There will be in both journals more space devoted to summaries and reviews. It is hoped

that no significant material will escape adequate notice. In addition to the usual reviews, articles will be published from time to time summarizing the writings in particular departments.

Secondly, by uniting the forces of the two journals the news notes and editorial comments will be made to supplement each other. The *Review* will continue to give first place to news regarding the high school. It will come out, as before, on the first of the month. The *Elementary School Journal* will come out on the fifteenth of the month and will carry on the same general line of comment on educational movements, stressing, however, the doings of elementary schools.

Thirdly, the journals unite for the purpose of supporting certain monographs or longer publications which are too bulky for the journals themselves.

It was originally planned that these changes should be accompanied by a substantial increase in the number of pages published in each issue of the journals. The *Elementary School Journal* has indeed been brought up to the size of the *Review*, but the untimely increase in the cost of publication has prevented the *Review* from enlarging at once.

It is the hope and confident expectation of the editors that they can very shortly expand, in spite of the cost of paper. Every subscriber added to the list makes it possible to enlarge these publications. The *Review* will be enlarged as fast and as far as its resources permit. The *Review* exists for one sole purpose, namely, to promote the better organization and conduct of schools. Its editors have no compunctions whatsoever in asking those who know the *Review* to support it with contributions of articles, news items, and communications, and with that form of promotion which is most effective—a word to those who have not yet subscribed.

In the meantime, subscribers to the *Review* are invited to look into the announcement of combinations with the other publications of the School of Education of the University of Chicago, made on the second cover page, and to read the announcement of the new Monographs, which appears opposite the last page of reading-matter of this issue.

VOCATIONAL EDUCATION ASSOCIATION OF THE MIDDLE WEST

The Third Annual Convention of the Vocational Education Association of the Middle West will be held at the Auditorium Hotel, Chicago, on January 18, 19, and 20, 1917. The preliminary program gives promise of a meeting of unusual interest and profit. Previous conventions

have proved that this organization aims to provide speakers with expert knowledge of the subject on which they talk. Purveyors of platitudes rarely appear on its program. Some of the topics are: vocational legislation as exemplified in the National Child Labor law, the Smith-Hughes bill, and the proposed bill for Vocational Education in Illinois; trade agreements; industrial surveys; vocational education as a fundamental in national preparedness; the views of organized labor; work for women; agricultural education; corporation schools; the training of teachers. Among the speakers already engaged are: Professor Frank M. Leavitt, of the University of Chicago; Arthur Dean, director of agricultural and industrial education, New York state; C. A. Prosser, director of the Dunwoody Industrial Institute, Minneapolis; Frederick W. Roman, professor of economics, Syracuse University; Dr. David Snedden, ex-commissioner of education, Massachusetts; Matthew Woll, chairman of the educational committee of the Illinois Federation of Labor; John D. Shoop, superintendent of schools, Chicago; Florence M. Marshall, principal of the Manhattan Trade School for Girls; Matthew P. Adams, superintendent of the Mooseheart Industrial Institute; Dr. L. D. Harvey, director of Stout Institute; Charles H. Winslow, director of the Indiana Vocational Survey; F. D. Crawshaw, professor of manual training, University of Wisconsin, Louis F. Post, assistant secretary in the Department of Labor; David E. Shanahan, ex-speaker of the Illinois House of Representatives; Royal Meeker, statistician of the Department of Labor; W. C. Bagley, dean of the School of Education, University of Illinois. In all probability Senator Albert B. Cummins who aided greatly in the passage of the National Child Labor law, will address the convention.

A final program of this convention may be had by applying to A. G. Bauersfeld, Secretary, 1225 Division Street, Chicago.

THE RELIGIOUS EDUCATION ASSOCIATION CONVENTION

"Religious Education and the Coming World Order" is to be the theme of the Fourteenth Annual Convention of the Religious Education Association which will be held at Boston, February 27-March 1, 1917. The theme will be developed in addresses at popular evening sessions in Symphony Hall and other meeting-places and will be studied in its relations to the colleges, to churches and Sunday schools, to the family, to public schools, and to other social agencies, in special meetings held in the afternoons. Several commissions have been studying specific

problems in moral and religious education during the past year, and these commissions will report at the convention. Sessions will be open to the public. Programs may be obtained by addressing the Religious Education Association, Chicago, Illinois.

THE PASSING OF LATIN AS A REQUIRED STUDY

The omission of Latin from the requirements for admission to Goucher College, Baltimore, is a most welcome indication that the colleges for women, which have come to be regarded as the stronghold of conservatism, are coming to recognize the democratic influences which underly the present tendencies in education. The significance of this radical step will be better understood when we recall that Goucher is one of the six colleges for women included by the Bureau of Education among the fifty-nine colleges and universities of first rank in the United States. This college will, in time to come, be regarded as a leader among women's colleges in the intelligent adaptation of its work to the needs of the time.

Of similar import is the action of Columbia University in abolishing all other baccalaureate degrees and giving only the degree of Bachelor of Arts. Hereafter, according to the annual report of President Butler, neither Latin nor Greek will be required for this degree, which will be awarded to any student who shall have satisfactorily completed a course of liberal study chosen in accordance with the general regulations established by the faculty.

UNIVERSITY CONFERENCES FOR TEACHERS

The annual conferences for teachers held at various universities are becoming each year more significant, as regards both the numbers in attendance and the character of the programs carried out. The University of Illinois Conference on November 23, 24, and 25 had an attendance of over 1,500. The program contained three general sessions and twenty-eight departmental sessions besides a dinner for principals and superintendents. The general sessions were devoted to a discussion of the standardization of high schools and the place of vocational education in a democracy. The program of the administrative section included discussion of the following topics: the junior high school, progress made and results obtained; the township high school; the professional reading of the high-school principal; the place of industrial education in the

high school. Several of the sections have permanent organizations and secure through committees continuity of work in their respective fields which has resulted in the publication of valuable reports. The English section has been for several years organized as the Illinois Association of Teachers of English, which publishes a series of bulletins at regular intervals.

The Conference on Supervision at the University of Iowa is unique. Its attendance is confined to city and county superintendents, high-school and grade-school principals, boards of education, and other supervisors. The third annual session of this conference on December 7, 8, and 9 had an attendance of 250. There were seven general sessions and two round-table discussions for each of the following groups: grade principals, high-school principals, city superintendents, and county superintendents. These round tables gave opportunity for discussion of the material presented at the general sessions in an unusually intimate and effective manner. In addition to the members of the Department of Education of the University, the following had places on the program of the conference: Mabel Carney, state supervisor of normal training high schools, Minnesota; Leonard P. Ayers, of the Russell Sage Foundation; F. J. Kelly, dean of the College of Education, Kansas; Superintendent Charles E. Chadsey, Detroit; Professor George C. Strayer, Teachers College, Columbia; Principal J. Stanley Brown, Joliet, Illinois; Principal Franklin W. Johnson, University High School, Chicago.

THE DANFORD LAW IN OHIO

Under the heading "A Disgrace to the Profession," the *Ohio Teacher* contains the following vigorous editorial: "The operations of the Danford law are so plainly iniquitous that it can hardly find a defender anywhere. It could not be otherwise. The strange thing about it is that such a measure could be enacted."

The Danford law was passed by the last session of the General Assembly and is not a part of the code passed in 1913 on certification of teachers. It provides that a person who has never had any high-school education may be granted a certificate to teach one year. Such teacher is not required to have any normal training. After such teacher has taught one year the state would require him to have at least one year of high-school education and also the same amount of normal training that is required of experienced teachers. In other words, the great state of Ohio says that an eighteen-year-old boy who has had neither normal

training nor high-school training may be given charge of thirty or forty children and practice upon them for one year, but after the damage of malpractice has been done, the state says to him he is not sufficiently equipped to teach a second year until he has acquired further academic professional training.

This teacher with limited equipment competes on the market with teachers who have spent four years in high school and two years in normal school. *Each may be employed at the same salary.* If the normal-college graduate demands more than the minimum salary, some boards would prefer to employ the cheaper teacher.

The whole measure is a deliberate slap at professional training and at professional training schools. The standard set up by this law would satisfy the demands of the public a quarter of a century ago but not now. Ohio has been made the butt of ridicule by other states through the operations of this measure. It should be repealed at the very first opportunity.

THE EDUCATIONAL OPPORTUNITY OF CHICAGO

A few weeks ago Chicago and the country at large were promised another bitter fight between "administration" and "anti-administration" aldermen. The report was abroad that the Thompson faction was prepared to fight to the death the recent recommendations of the Council committee which has been investigating school control. Happily, as we go to press, opposition to the proposed school innovations does not seem to be developing much strength. Indeed, it seems quite likely that Chicago will submit to the legislature a request for a thorough reorganization of school control.

Alderman Buck's committee proposes that the mayor's power of appointing board members be transferred to the electorate; in other words, that so far as possible school administration be taken out of politics. Of course, no one believes that such a consummation can ever be actually attained, especially in a city of over two millions. The proposal contemplates the election of school-board members for Chicago on the same plan used for electing the trustees for the state university. It is to be regretted that the names of candidates for any such positions have to appear on party tickets.

Who are the members of Alderman Buck's committee, and what have they investigated?

They are a committee of the Common Council, a subcommittee on schools, under chairman Robert M. Buck, of the Thirty-third Ward, who

for nearly a year have been investigating the causes and the effects of the so-called Loeb rules of the Chicago School Board. The first important "Loeb rule" compelled Chicago teachers to give up membership in a labor union called a "teachers' federation." The second expelled nearly one hundred teachers who had been identified with federation activities. To be sure, some of these teachers had been ranked inefficient, but most of those expelled had been active in the federation and had been ranked good to excellent.

The *School Review* asserts that the objectionable feature of this Loeb rule is generally overlooked. It is not the injustice to certain good teachers, although that is bad enough. The chief objectionable feature is not the throwing of several thousand positions each year into jeopardy, at the whims of factions in a political school board; these objections are bad enough. But back of them and other objections lies the essence of the matter: the appointment and removal of teachers is essentially an administrative duty, which ought to be lodged, not in a school board, but in a competent, fair-minded, and courageous city superintendent. The Loeb rules, then, made possible, yes, almost inevitable, under the present system, are the subjects of investigation of Mr. Buck's committee. With unerring logic the committee has seen beneath the rules to fundamental causes, namely, *a large school board, appointed, shot through with politics, exercising both legislative and executive functions, controlling both general policies and administrative details.*

What are the recommendations of the committee? After outlining a long list of findings the committee submitted the following recommendations to be submitted to the Council:

That the City Council adopt as its policy the constructive program hereinafter set forth and seek to unite the forces of the city who are patriotically, loyally, and unselfishly interested in the welfare of the greatest of our institutions—the public school—in a campaign to obtain the recommended legislation at Springfield; to induce the Board of Education to enact an administrative code such as is hereinafter recommended and which it can now do under its present powers without waiting for new legislation; and in a city-wide effort to educate the voters of the city to an awakened understanding of the progress that has been made in the science of education, while Chicago stood by and marked time, and to train them in efficiency in government of the school system that molds our future citizens and makes them American or not as it is efficient or inefficient.

That the legislature be requested to amend at this session the school law governing cities of more than 100,000 population, so that it shall provide as follows:

The Board of Education shall consist of seven members elected at large. The term of office of members of the Board of Education shall be six years.

Each member shall receive a salary of \$1,500 a year.

The members of the Board of Education shall be elected at the regular city election each even-numbered year on a non-partisan ballot. At the regular city primary election the same practice shall prevail, the names appearing on the primary ballot by petition, the same ballot being used by the voters of all parties. If, at the primary election, any candidate obtain a majority of all the votes cast, he shall be declared elected. The names of twice as many as fail to obtain a majority shall be placed upon the ticket at the election in the order of the number of votes received at the primary, beginning with the one receiving the greatest number. The names shall be rotated upon the ballots by wards or precincts, both at the primary and at the election, the top name in one division being dropped to the bottom in the next. Women may vote for members of the Board of Education and are eligible to be elected to membership. Vacancies may be filled by the Board until the next regular city election, when they shall be filled by the voters.

Among the powers of the Board of Education shall be these:

To appoint an attorney and a comptroller who shall be directly responsible to the Board in the discharge of its legislative, inspectorial, and custodian functions and who shall not be under the control of the superintendent.

To appoint disinterested experts from time to time to report directly to the Board concerning the efficiency of the schools and the employees of the Board.

To execute a contract with the general superintendent of schools for not to exceed four years; such contract to contain provision for cancellation for cause.

To submit questions of educational policy to the people by referendum, either by passing ordinances contingent upon approval by referendum or by submitting questions of public policy.

The report directs that the legislative action permit the passage of an ordinance to govern the educational system, which shall define the functions, powers, and duties of the general superintendent of schools, his assistants, teachers, and other employees.

Let friends and opponents of the proposals read carefully this first paragraph. Let them be sure that their motives reach the length of that civic appeal. Let the battle be joined on the merits of the proposals, not on the desire to retain political power. The superiority of a small, unpartisan board is perhaps not unquestioned; the wisdom of a \$1,500 salary is perhaps doubtful; the mode of election might be improved. Let the fight turn upon these issues. The administration

of Mayor Thompson has another large opportunity to make its followers fall into line, this time for educational progress; to crush the implication that anti-administration aldermen stand for good schools, while administration aldermen stand primarily for good politics; the administration has an opportunity to help thrash out an improved system of school control, based on some modification of Alderman Buck's recommendations; has an opportunity to take to Springfield a request from a united Chicago for school improvement. In short, just now, if we have an administration big enough to stop playing politics on a non-political matter and to substitute disinterested citizenship, Chicago may hope to see largely disappear the constant bickerings and jealousies, and waste, and unrest, that have played havoc with our school system for ten years.

The Council committee has indeed seen that the dismissal of teachers under the Loeb rule was merely an indication, a symptom, of a disease whose cause lies in the confusing of legislative and executive functions in a political school board. The committee does not forget, however, the symptom. With the same keenness of educational perception that characterizes most of its recommendations, the committee proposes to give to teachers a reasonable security of position. The committee would make a position in the city schools no sinecure job to be held indefinitely; permanency is to depend on continued and increasing efficiency. The recommendations provide that:

Teachers shall be appointed from year to year for the probationary period of three years, after which they shall be removed only for cause following a full hearing, or for inefficiency or neglect of duty after notice of unsatisfactory service and opportunity to improve their work.

On the charge of inefficiency or neglect of duty, after notice and opportunity to improve, the decision of the Board shall not be subject to review by the courts; provided, however, that such decision shall be based upon the written, detailed recommendation of the general superintendent of schools and upon the teacher's answer, which recommendation shall be filed simultaneously with the Board and with the teacher against whom the charge is made, at least thirty days before the decision by the Board; and provided, further, that the teacher shall have opportunity to answer in writing and shall have the right to cause publication of the recommendation and answer within the said thirty days.

THE CRUX OF THE PROPOSAL

The very heart of the proposals lies in a careful definition of the duties of the city superintendent. He is to become what he is not now

in Chicago, an executive officer with practically unrestricted power in his sphere. He shall initiate courses of study, choose textbooks, determine supplies and equipment, appoint, discipline, and dismiss all teachers and all employees of the school system not under civil service, etc. As the *School Review* has repeatedly pointed out, the city superintendent ought to assume administrative functions, just as the superintendent of a business concern assumes his responsibilities. His relation to the school board should be like the relation of a superintendent of a business concern to the board of directors. The latter may initiate new business policies; usually, however, their duties lie in approving and modifying policies withheld to them by their superintendent. So in the Chicago school situation Mr. Buck's committee proposes to have general educational policies determined by the school board, and even in some cases by the city council (and here lies danger). But the purely administrative features of the schools are to be delegated to the superintendent. If he proves incompetent, the remedy is to find some other man who is competent.

CORRELATION BETWEEN READING TESTS AND GENERAL ABILITY

There is no phase of education that has undergone such complete change in method of procedure within the last ten years as has the science of education itself. Formerly teachers contented themselves by stating general truths arrived at from theoretical averages. Today no point is regarded as certain unless it has withstood every known test. The value of a test depends upon the accuracy with which it measures some specific ability and the extent to which it gives clearly uniform results under similar conditions. When one is measuring the lifting power of a machine or the strength of an acid the situation is simple enough, but when brain power is to be measured there is an added uncertainty that lends zest to the experiment.

The experimenter is never certain that his instrument will register just what he is trying to get, and he is never quite sure of identical conditions. An experiment conducted by Dr. King, of the State University of Iowa, in the spring of 1916 is an interesting case in point. Dr. Kelly, in response to an inquiry, stated that no correlation between the Kansas silent-reading tests and other subjects had yet been made, but that there was a general feeling among teachers that there was some correlation. Dr. King, with the hearty co-operation of high-school teachers, set about finding the relations. He reports his results as follows:

SOME FINDINGS REGARDING THE KANSAS SILENT-READING TEST AS A
MEASURE OF ABILITY

In the Iowa City High School the following medians by sexes were found:

Grades	Girls	Boys
Ninth grade.	21	24
Tenth grade.	21	29.3
Eleventh grade.	21.2	27.9
Twelfth grade.	30.8	34.5

It appears from this test that boys do better than girls and that there is a slight correlation with grade, more noticeable in the case of boys. These grade medians are similar to those published on the score sheet accompanying these tests, viz.: ninth grade, 22.9; tenth grade, 25.8; eleventh grade, 26.0; twelfth grade, 28.8.

The average class marks of these students of the Iowa City High School were compared with their grades in this test as follows:

Students averaging E made a median grade of 42.0
Students averaging G made a median grade of 41.3
Students averaging M made a median grade of 25.0
Students averaging P made a median grade of 21.3
Students averaging F made a median grade of 14.0

It will be seen that there is a fairly good correlation with class standing as far as high-school students are concerned.

This same silent-reading test was given certain groups of university students with the following results: Fifty-nine Freshman engineers, after one semester's work in the College of Applied Science, made a median grade of 38.3. This test was unfortunately given after ten or more of the weakest students had been eliminated from the class as failures.

In the spring of 1916, 94 liberal-arts Juniors and Seniors, mostly women, were given the test. Their median grade was 34.8. Range, 16.4-53.6. Range of middle 50 per cent, 29.9-40.4. There was no University Junior or Senior who made a grade equal to the test high-school grade of 68 (made by the valedictorian of the class of 1916).

Various coefficients of co-ordination (Spearman-Foot rule formula) between the ranks of the university students in the Kansas silent-reading test and their ranks in certain other tests of ability were carefully computed:

FRESHMAN ENGINEERS (Spring of 1916)

Kansas silent-reading test and hard-opposites test. R 0.18
Kansas silent-reading test and scholastic rank. R 0.12
Hard opposites and scholastic rank. R 0.42

It will be seen from the above that the results of the hard-opposites test are a much better measure of the sort of ability that is expressed in class ranks than is the Kansas silent-reading test.

In the case of the Junior and Senior liberal-arts students even more interesting results were obtained. These students were tested twice (reading test No. 1 and reading test No. 2) for efficiency in silent reading. The object of these tests was to determine the relative efficiency of slow and rapid readers. The method and findings of this investigation will soon appear in *School and Society*. It is sufficient to state here that the relation between speed of reading and comprehension of matter read was found by both tests to be inverse of negative.

These two reading tests furnished two series of ranks for these 94 students in efficiency in silent reading. Our first silent reading test ranks, when compared with the ranks in the Kansas test, yielded a Spearman coefficient of 0.12. Test No. 2 compared with the Kansas test yielded a Spearman coefficient of 0.17.

The relative class standings of these 94 students was carefully measured and, co-ordinated with the Kansas test, gave a Spearman coefficient of 0.04. On the other hand, reading quality by our test and hard opposites gave a Spearman coefficient of 0.29. Class ranks and hard-opposites ranks, $R = 0.31$. The ranks of the reading tests 1 and 2 gave a coefficient $R = 0.25$. Our reading tests with class ranks yielded 0.22 and 0.29, respectively. These coefficients of co-ordination may be transmitted into approximate coefficients of correlation by multiplying each by the factor 1.5.

It will be seen that the Kansas silent-reading test shows quite low correlations with other measures of ability in these students. In fact, our reading efficiency ranks and ranks in hard opposites are much better measures of ability.

In conclusion, the Kansas silent-reading test, while showing some relation to the ability of high-school students, does not seem to be a good measure of ability of university students. In our opinion, *it is not a test of reading at all*, but of ability to follow directions and to solve simple problems.

DIRECTED READING

For a long time, persons interested in education have felt that, considering the money and the energy expended, the returns, represented by a love of reading good books, have been very scant. The Wisconsin State Teachers' Association of 1915, in an attempt to meet the situation, formed an organization to be known as "The Wisconsin Teachers' and Young People's Reading Circle," whose business should be to put the right sort of reading into the hands of the inexperienced and to stimulate interest by acknowledging in some way the effort made.

The Reading Circle has just issued its 1916-17 list, made in conformity with the township library requirements. Under the plan suggested in the list, all pupils of school age beyond the second grade, whether in school or not, are to be given credit for reading. One year of prescribed reading entitles the reader to a diploma, and every year thereafter entitles him to a special seal, to be attached to the diploma. Teachers as well as pupils are encouraged to read. The books chosen for professional reading should prove particularly helpful to young teachers.

The timeliness of the Wisconsin plan is attested by the number of classified lists of reading which have been arranged by schools and libraries. *A Reading Course for Elementary Schools for the State of New York*, Bulletin for September 15, 1915, of the University of the State of New York, is a similar plan as far as the list and a plan for giving city or county credit for reading is concerned. The New York plan limits the fiction to one-half the books read. There are many other valuable lists. Among these are: *The American Library Association Annotated Lists for Boys and Girls*, 1915; *A List of Books Suited to a High School Library*, compiled by the University of Chicago High School; *United States Bureau of Education Bulletin No. 35*, 1913; *High School Reference Books*, issued by the Iowa State Department of Public Instruction; *The Report of the Committee on Rural School Libraries*, reprinted from the National Educational Association, July, 1914; and *Reading for Pleasure and Profit*, published by the Free Public Library of Newark, N.J. The last-named list is more literary than most of this type. It is "a list of certain books which young people find entertaining, being chiefly books which older readers enjoyed when they were young."

The plan deserves the hearty co-operation of the Wisconsin teachers. It should bring communities closer together and make for greater uniformity in instruction within the state.

BOOK REVIEWS

The Direct Method in Modern Languages. (Contributions to Methods and Didactics in Modern Languages.) By CARL A. KRAUSE, PH.D. New York: Scribner, 1916. Pp. 139. Cloth, \$0.75.

This latest volume by Dr. Krause, fittingly dedicated to Dr. Max Walter, is a collection of ten addresses, articles, and bibliographies, nine of which have previously appeared in the *Educational Review* and *Monatshefte für deutsche Sprache und Pädagogik*. The book comprises the following chapters: (i) "The Teaching of Modern Languages in German Secondary Schools" (a report to Superintendent William H. Maxwell on the author's observations in Germany); (ii) "What Prominence Is to be Assigned to the Work in Speaking the Foreign Language?" (iii) discussion on "Present Conditions and the Direct Method"; (iv) "Some Remarks on the Regent's Examinations in German"; (v) "The Teaching of German by the Direct Method"; (vi) "The Trend of Modern Language Instruction in the United States"; (vii) "Suggestions for Teaching Walter-Krause's Beginners' German"; (viii) "Why the Direct Method for a Modern Language?" (ix and x) "Articles on Modern Language Methodology in America for 1912, 1913, and 1914," to bring down to date the bibliography of C. H. Haudschin in his *Teaching of Modern Languages in the United States* (Bulletin of the U.S. Bureau of Education, 1913, No. 3).

Most of the papers of this symposium were first read before educational associations. Their origin extends over the years 1908 to 1915. It is therefore natural to expect some repetitions of salient points. But this by no means detracts from the value of the book, which, in the words of a prominent modern-language man, is "a sane, explicit, and forceful exposition of the underlying principles of the direct method" and "a veritable compendium of hints and suggestions as to the method of procedure in the classroom."

The book emphasizes, among other things, the following important points: (1) the relatively large amount of time allotted to modern languages in German secondary schools (especially in *Oberrealschule*) and the marvelous results achieved; (2) the inadequacy of our entrance examinations, with special reference to the New York State Regents' Examinations in German; more prominence should be given to oral facility, and an opportunity for originality ought to be afforded; (3) the need of better-prepared teachers—respectable living salaries should be paid to induce better men to go into teaching; (4) speaking the foreign language not an end in itself, but as a necessary prerequisite to correct writing and intelligent reading and understanding; "Power to use is the measure of efficiency in modern languages";

(5) the combination of the objective and the psychological (Gouin) methods as best adapted to our older pupils; (6) the trend in modern-language instruction is toward the direct method; this is strongly borne out by the articles enumerated in the bibliographies; (7) the importance of acquiring a good pronunciation, a good working vocabulary, and a working grammar; (8) real reading ability as the aim of modern-language instruction; the facts should be truly representative of foreign life; (9) the work must be slow and thorough in the beginning; "Too hasty striving after the classics is an abomination."

In the state of New York a great deal of progress has been made, and Dr. Krause takes a cheerful outlook upon the future. He is very (perhaps too?) optimistic about the achievements of modern-language teaching. With better-prepared teachers the standards will undoubtedly be raised. But without a seriousness of purpose on the part of the student the best results cannot be obtained. Let us hope that the knowledge of the close correlation between good work in school and success in life will also furnish an incentive for better work in modern language.

In conclusion, the book ought to be in the hands of every progressive language-teacher.

WILLIAM F. LUEBKE

STATE UNIVERSITY OF IOWA

Educational Measurements. By DANIEL STARCH. New York: Macmillan, 1916.

A critical and impartial digest of the available literature on educational measurements is sorely needed. Interest in this movement is so spontaneous and widespread, and the development of new measuring devices so rapid, that the average reader of educational journals gets but a fragmentary idea of the field.

Educational Measurements, by Professor Starch, of the University of Wisconsin, is the first book, so far as I am aware, that has been written to meet this new demand.

The author explains in his introduction: "It is undoubtedly premature to write a book at this time on educational measurements, because most of the measurements, are in an experimental stage." However, Professor Starch makes an attempt and must be judged accordingly. The reader unfamiliar with the literature of this field, will welcome the volume. To those who have kept abreast of the developments in standard scales and tests in education, the book will probably prove both a surprise and a disappointment; a surprise because the author has overlooked so much of the material available that should be digested in such a book, and a disappointment because so many of the tests included are extremely amateurish, while others upon the same subjects of proved value are not even mentioned.

The second and third chapters deal with "Marks as Measurements of School Work," and are perhaps the best chapters in the book. However, the critical reader searches in vain for mention of the studies of Cattell, Cajori, Gray, Kelly, and others in the field. Unfortunately, the author gives the impression that his own work on marks is sufficient, and the reader who expects to find a critical and impartial digest is disappointed. The literature is not fully summarized.

Chap. iv covers the measurement of ability in reading. Forty pages are given to this subject, of which 27 are used in quoting texts. Whipple's vocabulary test and Gray's reading tests are not mentioned. In giving standard scores at the conclusion of this and other succeeding chapters no mention is made of the number of cases, although the author does not claim that the standards are final. The last chapters of the book deal with tests on high-school subjects. These are extremely superficial and far from being standardized. All in all, the author is to be commended mostly for organizing for the casual reader a possible course in educational measurements. It is to be hoped that he will revise and enlarge the book before it runs into a second edition.

E. E. LEWIS

PROFESSOR OF SECONDARY EDUCATION
COLLEGE OF EDUCATION
STATE UNIVERSITY OF IOWA

A Study of English and American Writers, Vol. III. A Laboratory Method. By J. SCOTT CLARK, with additions by JOHN PRICE ODELL. Chicago and New York: Row, Peterson & Co., 1916. 8vo, pp. xii+645.

The great obstacle with which this volume, as well as its predecessors, has to contend, is the first impression its contents make upon a stranger. Such a reader finds here a new and elaborate method of literary study, and both the newness and the elaborateness at first repel him. If, however, he is spurred on to a close examination of the method, or, better yet, if he has opportunity to use it in the classroom, he invariably comes to think very highly of it. There are two great faults, among others, that most young students find in present-day teaching of literature. They are not taught what to look for or how to read observingly, and they are not taught to discuss the style of a writer intelligently; indeed, too often the student finds his instructor's lectures on style most nebulous. Professor Clark's method eradicates both of these faults. His volume lists the distinctive mental qualities of each writer; the student in his reading is to note examples of these; in other words, is to observe with guidance the dominant tendencies of the author's mind. He is not, at this stage, to discover these tendencies; he is not to utter generalities about them: he is to list examples of them. With regard to style, the student will observe in

his reading ten specific matters of usage stylistically fundamental (see p. viii) and will list examples of them. It will be impossible for him to indulge in any of the conventional textbook generalities, meaningless to him and trite to the instructor. Some teachers who love the lavender nebulosities of criticism will think the method rigid and lacking in play for individuality. That is unfortunate. The method is definite and practical; it develops the student's powers of observation; it frees him from the usual abject dependence on the professional instructor. Some teachers who love the lavender nebulosities of criticism will think the method rigid and lacking in play for individuality. That is unfortunate. The method is definite and practical; it develops the student's powers of observation; it frees him from the usual abject dependence on the professional critic; and it inspires in him a love of meaningful statement. No defect can counterbalance these virtues; and they are not merely virtues—they are crying needs in the present-day study of literature. Many of us, it may be said, who find it impracticable for various reasons to adopt the method entire, find these three volumes of great service in suggesting individual class exercises.

This volume—the last—completes Professor Clark's survey of the major English and American writers, and with the other two volumes (Scribner, 1905, 1907) forms a valuable manual of English style. It is a matter of sad regret that the death of Professor Clark made the completion of his work fall to another. Professor Odell, however, has proved himself an able continuator. Because of his long and pleasant association with Professor Clark at Northwestern University it has been possible for him to give us the book substantially as Professor Clark would have wished. In a volume of this size, with its compact presentation of multitudinous detail, there is some inevitable looseness of statement. We are all fallible. But the details are here; and the accuracy is up to the worthy standards of the preceding volumes. Professor Odell consequently deserves both thanks and congratulation.

Teachers who have not become familiar with the methods of these volumes have missed valuable training.

GEORGE SHERBURN

UNIVERSITY OF CHICAGO

The Psychology of Drawing, with Special Reference to Laboratory Teaching.

By FRED CARLETON AYER, Professor of education, University of Oregon, 1916. Baltimore: Warwick & York, Inc. Pp. 186.

Students and teachers of science will welcome this contribution, which is the author's doctor's thesis. It "represents the results of a study of drawing as a device in laboratory teaching which has included a survey of the existing literature of the psychology of drawing." The book is arranged as follows: Part I, "The Scope of the Problem"; Part II, "Survey of the Literature of Drawing"; Part III, "Experiments and Conclusions."

In Part I the author points out that "laboratory work has three aims: the observation of material, the making of records, and the retention of learning. It furthers these aims by three devices: representative drawing, description, and analytical drawing. Our general problem is to determine the character of the various interrelations of the factors which enter into laboratory procedure." The specific problem, however, is "the psychological analysis of laboratory drawing."

Four chapters are devoted to a survey of the literature of drawing. In Part II we find such subjects as: "The Methods of Research and Bibliographical Survey" (chap. ii), "Studies in the Relation of Drawing to Intellectual Development" (chap. iii), "Studies in the Analysis of the Drawing Product" (chap. iv), "Studies in the Analysis of the Drawing Act" (chap. v). A bibliography of 110 titles is given at the end of the book.

"Four groups of subjects (about fifty in each group) were carefully tested with unfamiliar objects as to their abilities in drawing, description, and diagramming." These tests and the results obtained are recorded in Part III.

The author has arrived at a number of interesting conclusions, and many excellent suggestions are made for the improvement of science teaching. We wish to mention one set of conclusions. By definition, "representative drawing is 'representative' which reproduces as accurately as possible the exact appearance of an object. The product is a visual imitation of the original."

The effect of representative drawing upon the student's retention of scientific knowledge is stated by the author in the following words: "It is a waste of time for the interests of scientific thinking to require students to spend extended periods of time at representative drawing. In fact, it is worse than a waste of time, for it encourages bad habits of analytical study which are opposed to interests of scientific thinking and constructive research. It is no wonder that so few of our picture-laden notebooks give evidence of a scientific grasp or initiative. The excessive use of representative drawing is a serious pedagogical formalism which produces copyists instead of scientists and which creates distaste instead of enthusiasm for science."

"The results of the various special tests show that representative drawings do not afford a measure of the pupil's progress or an adequate record of the work which he has accomplished."

As opposed to the above conclusions the author finds that: (a) "Description [by words] is a desirable record of the work of the pupil. It covers a wide range of observation and lacks only in the matter of the extra time required for the preparation of accurate and comprehensive statements and for the teacher to make critical inspection." (b) An analytical drawing, as the term is here used, consists of a diagrammatic presentation of the parts of an object and their position and relation to one another. To produce such a drawing the pupil must analyze the object and then present it in its entirety, including parts that may be seen in one view and parts that may not be seen in that single

view. It requires analysis and sustained mental effort to the end of the process of constructive presentation. "Analytical drawings are ideal records of work accomplished and should be used wherever adaptable to the laboratory exercise. They require but a minimum of time for execution, can be made without exceptional skill of hand, and may be readily inspected."

HARRISON TECHNICAL HIGH SCHOOL
CHICAGO

EARL R. GLENN

How Children Learn to Draw. By WALTER SARGENT and ELIZABETH E. MILLER. Boston: Ginn & Co., 1916. Pp. iii+264. \$1.00.

Books on methods of teaching are often merely compilations of detailed devices presented in the form of dogmatic directions. Books on psychology, on the other hand, even educational psychology, have been content with laying down general principles concerning mental life. Too often these general principles are so remote from any application to the problems of the teacher that the authors of the books containing them would be hard put to it to show that they have any bearing on practice. Even when the principles are themselves applicable, the student is commonly left to make his own application.

The significant fact about this book on drawing is that it represents the union between the presentation of theory and of the related practice. In this way theory illuminates practice by showing why certain methods are pursued. Furthermore, practice not only illustrates theory, but, still more important, forms the basis of theory. For this reason the book may be said to have a genuinely experimental basis. The experiment was not conducted in a technical manner, but it had the advantage of being carried on in a constructive spirit. Its aim was to discover the modes of meeting the developing phases of the child's ability to draw by the appropriate form of training, as well as to determine what these developing phases are.

The conclusions which the authors have arrived at as to the child's drawing interests and ability at various ages accord in a general way with the results of certain previous technical investigations, as those of Barnes and Clark. For example, they agree that there is a transition point at about the ages of eight or nine, when the child comes to a keener recognition of the detailed appearance of objects, and hence perceives the inadequacy of his early crude drawings. But the former experiments offered no solution of the problem which this situation presents. The authors of this experiment have shown that, while the younger child's drawings are what may be described as symbolic, in that they represent types rather than detailed individual characteristics, they are not, by any means, insusceptible to the influence of training. Among the forms of training which have proved successful are several which are, in some measure, reactions against the extreme forms of the modern revolt against the older formalism. Such are the use of tracing, and the mastery of a few type

objects. In addition, the gathering of information about objects which are to be represented in drawing, and the study of pictures to see how certain effects are produced, are employed.

Mention can only be made, in addition, of the manner in which the problem of correlation is attacked. This is one of the most characteristic features of the course. In general, the solution is sought by looking to other branches, as history, geography, and nature-study, to furnish the interests and the subjects, and then by choosing from these subjects such projects as suit the child's capacity at various ages and form a progressive series in difficulty of technique. Illustrations of such projects for all the school grades are given in detail, and the course in use in the University Elementary School is described in full.

FRANK N. FREEMAN

UNIVERSITY OF CHICAGO

English Literature. By JULIAN ABERNETHY. New York: Charles E. Merrill Co. Pp. 583.

Almost every publisher of school texts offers a history of English literature; hence a new edition must have unusual features to recommend it.

The History of English Literature, published by the Charles E. Merrill Co; and written by Dr. Julian Abernethy, has two distinguishing characteristics. The author has allowed himself sufficient space to give the particulars of his story something like true proportion; for instance, he allows himself four chapters in which to describe the Elizabethan era, without feeling that he must consequently cut down a less important period into a mere catalogue of names; and the minor writers are kept remarkably clear, considering the brevity of the text. The final chapter, which discusses the chief literary tendencies of the present age movements, is perhaps the most unusual part of the book.

Bird Friends: A Complete Bird Book for Americans. By GILBERT H. TRAFTON. Boston: Houghton Mifflin Co.

Friends of the birds will welcome Gilbert H. Trafton's new book. Wide-spread interest in the economic as well as in the aesthetic value of the feathered inhabitants of our country has been aroused as the evils resulting from the reckless slaughter of many important species have become more and more evident. In this work the author has made a general survey of the whole subject in such a way that the situation may be understood by the public. The facts necessary to an intelligent knowledge of the subject are given in an entertaining way. By means of illustrations and carefully worked out tables the service of the birds in the destruction of insects and noxious weeds is effectively presented, and followed by a discussion of those birds which are

popularly classed as harmful. This topic is interesting and valuable, since a comparatively small amount of damage has so often created a prejudice which has led to indiscriminate slaughter of some species. Instead of the usual generalizations which are so unsatisfying to one who desires information, accurate data are used in presenting these subjects. A balance is struck as to just how our account with the birds stands. After his conclusive showing of the essential value of birds and their decreasing numbers, their need of protection from the encroachments of civilization becomes evident and appeals to the reader as a vital question. Not only has man himself been an enemy of these good friends, but he has introduced and cared for birds and animals which have been responsible for a large decrease in the bird population. All of this is presented in a way which is never wearisome, but convinces the reader and enlists his sympathies for these invaluable guardians of our forests, orchards, and crops, so that he is readily interested in the many practicable methods of attracting and caring for them which are given in the concluding chapters. Audubon societies and teachers who are trying to create an interest in, and a love for, these delightful and most useful neighbors of ours will find that this book covers the field in a highly serviceable manner; whatever the phase of the study on which information is sought, whether observation of the habits, identification, economic value, or protection, the student and the general reader will find facts and suggestions of value. For those who desire to make a detailed study of any of these topics a bibliography is provided.

The definite and clear discussion of this important question, in a handsome yet serviceable binding, with good paper, large, clear type, and many fine illustrations, make up a very desirable volume for both public and private libraries.

IOWA CITY, IOWA

ETHEL GOLDEN

The Promise of American Life. By JAMES CLOYD BOWMAN. Boston: D. C. Heath & Co., 1916. Pp. 303.

The Promise of Country Life, is the attractive title of a book of descriptions and narrations to be used as models in an agricultural course in English.

The reader who is primarily interested in agricultural students can but be jealous when he reads the table of contents and the author's preface dedicating the work especially to this group of students. In his effort to appeal to farm boys, Mr. Bowman has happily broadened his appeal to American boys and girls. The selections, without being erudite, are full of the call of the woods and the by-lanes and the out-of-doors.

The work has been carefully planned. The author says in his preface: "The first group of selections has to do with the type of individual who is most at home in the country. The second treats of the pleasures which may be found in solitude; the third shows how various types of men have found

enjoyment in a rural environment; the fourth contrasts life in the city with life in the country; still another describes man's mastery over the crops of the fields and domestic animals. One story depicts the unstunted loyalty of man's best out-of-door friend, the dog; one story pitilessly portrays the meager life of those who are too impoverished of soul to enjoy what the country has to give; finally, a group of stories discuss the various sociological and economic problems of farm life."

Since, however, the selections have been chosen from such well-known writers as John Burroughs, Hamlin Garland, James Lane Allen, Cora Harris, Guy de Maupassant, and Lyoff N. Tolstoi, the order in which the selections are placed is of slight importance.

The introduction includes an analysis of method in description, simple narrative without plot, and short story, which most high-school teachers will find very suggestive. Although the text is evidently intended for college use, the selections are not too difficult for advanced high-school students. In schools where library facilities are limited, the book will furnish the teacher of American literature quite a range of modern American writers.

Experimental Education, Laboratory Manual, and Typical Results. By

FRANK N. FREEMAN, PH.D., assistant professor of educational psychology in the University of Chicago. Boston: Houghton Mifflin Co., 1916. Pp. viii+220.

As a result of the increased application of experimental methods to the study of education, the content of courses for teachers and students has been largely changed in recent years. Textbooks and professional reading present a continually growing amount of material of a concrete sort, much of which has been gleaned from experimental research. Consequently, it is no longer possible for the student of education, even apart from the necessity for training in methods of research, to understand thoroughly and grasp the significance of the materials of study without some knowledge of the methods by means of which this material has been gathered.

The student of education has until recently been obliged for the most part to get this knowledge from courses in experimental psychology not adapted for his special purpose. Hence the demand for laboratory courses which are designed primarily for the needs and purposes of the student of education. Such courses have been severely handicapped by a dearth of manuals and a lack of standardized laboratory exercises. The publication of Freeman's book on experimental education, which is at once a laboratory manual and descriptive of the results of the experiments outlined, comes at a time when much need is felt by teachers of the subject for just such a book.

A brief introductory chapter gives with admirable clearness an account of the significance of experimentation and general instructions as to methods of

treatment of data. There follow directions for performing experiments pertaining to sixteen different subjects, beginning with an analysis of the various types of the learning process. Typical exercises are presented illustrating (1) the development of a motor co-ordination, (2) the development of adequate perception, (3) the formation of associations between perceptual or ideational elements, and (4) the analysis of a situation.

The next section of the book deals with experiments bearing directly on school subjects—writing, reading, and number work. Finally, there appears a series of tests of the visual and auditory senses and of the higher mental functions. The instructions for each experiment include, not only descriptions of methods and materials, but also directions as to treatment of results and a discussion of typical results and their significance. The descriptions of methods of treating results, including graphic representation and mathematical treatment and tabulation of data, are especially valuable. Topics for further study are suggested, and also a list of questions on the wider applications of the experiment. Each chapter is supplied with a list of references bearing on the topic concerned. An appendix gives figures and materials for use with the various experiments, and cuts appear throughout the book illustrating such apparatus as is necessary.

The work is characterized throughout by clean-cut descriptions, and the author's insight into the practical problems of education, united with the analytic judgment of the trained psychologist. Some disappointment may be felt at the somewhat limited range of laboratory exercises presented, but the selection of possible experiments has been carefully made and only such exercises are given as have been clearly found fruitful in the author's experience. Furthermore, the author's suggestion of possible extensions of the various experiments will be found to be fruitful sources of additional investigations for those who desire a larger amount of laboratory work. Teachers of the subject will therefore be grateful to the author for a workable and useful manual.

YALE UNIVERSITY

E. H. CAMERON

BOOK-NOTES

(Detailed discussions of some of the following books will appear later.)

ABERNETHY, J. W. *English Literature*. New York: Charles E. Merrill Co., 1916. Pp. 585.

Clean print, interesting pictures, good literary map.

A Million a Year: a Five Year School Building Program, including Discussion of Some Fundamental Educational Policies. City of Minneapolis, 1916. Pp. 90.

ANGUS, F. R. *Fundamentals of French*. New York: Henry Holt & Co., 1916. Pp. 279.

A combination of the direct and grammar methods.

BALCH, E. *Amateur Circus Life*. New York: Macmillan, 1916. Pp. 190. \$1. 50.

A unique and very interesting presentation of exercises in physical training.

BERNHARDT, WILHELM (Editor). *Immensee*. Boston: D. C. Heath & Co., 1916. Pp. 136. \$0. 35.

BERTOLETTE, D. F. K. *Motives in Education*. Boston: Gorham Press, 1916. Pp. 63. \$0. 75.

The book contains three essays. The first of these, "Motives in Education," is an ethical treatise of the chief causes which may influence any person to study; the second, "French Huguenots in Early Florida," is a historical essay; and the third, "Trees as a Means of Beautifying Our Cities," is a discussion on beautifying our cities with trees.

BOWMAN, JAMES CLOYD. *The Promise of American Life*. Boston: D. C. Heath & Co., 1916. Pp. 303.

CLARY, S. WILLARD (Editor). *Höher als die Kirche*. Boston: D. C. Heath & Co., 1916. Pp. 129. \$0. 35.

The new edition has added "Grammatische Übungen" and has made some changes in the "Fragen" and "English Exercises."

EVANS, GEORGE W., and MARST, J. A. *First Year Mathematics*. New York: Charles E. Merrill Co., 1916. Pp. 253.

Feeding the World. Issued by the Board of Education, Minneapolis, "Occupational Series," Bulletin No. 6.

A reprint of chap. ii from the report of the *Minneapolis Vocational Education*, Bulletin No. 21, National Society for the Promotion of Industrial Education.

Financing the Minneapolis Public Schools: Sources of Revenue; Expenditures; Comparison of Principal Items of Expense with Corresponding Items in Twenty-four Other Cities. City of Minneapolis, 1916. Pp. 36.

Five Hundred Practical Questions on Economics for Use in Secondary Schools. Compiled by a special committee of the New England History Teachers' Association. Boston: D. C. Heath & Co., 1916. Pp. 58.

FRYE. *Complete Geography.* Mississippi edition. New York: Ginn & Co.

GUERBER, H. A. *Märchen und Erzählungen.* Boston: D. C. Heath & Co., 1916. Pp. 212. \$0.65.

The text has been revised by Dr. Guerber. A revised vocabulary and direct-method exercises have been added by Professor W. R. Myers.

Higher Educational Institutions of the State of Iowa. Department of the Interior, Bureau of Education, Bulletin, 1916, No. 19.

Improvement of Rural Schools by Means of Consolidation. State of New Jersey, Department of Public Instruction, July, 1916.

KITSON, H. D. *How to Use Your Mind.* Philadelphia: J. B. Lippincott & Co., 1916. Pp. 215.

A book which may be used as a college text. Very helpful to grade and high-school teachers interested in supervised study.

Know about Library. New York: E. P. Dutton.

A very attractive set of books offering just the things children want to know about. Many a rainy afternoon might be amusingly and profitably spent with these bright little books.

KNOWLES, A. *Oral English.* Boston: D. C. Heath & Co., 1916. Pp. 351.

LEWIS, ORLANDO F. (Editor). *Germelshausen.* Boston: D. C. Heath & Co., 1916. Pp. 113. \$0.35.

The vocabulary has been compiled in this new edition. More elementary notes, and "Fragen" and "Grammatische Übungen" have also been added.

LONG, E., and BRENKE, W. C. *Plane Geometry.* New York: Century Co., 1916. Pp. 273. \$1.00.

Geometry is correlated with algebra. The practical side of geometry is emphasized. The book is furnished with a pocket which holds a carefully constructed rule.

Mortality Statistics, 1914. Department of Commerce, Bureau of the Census, 1916.

REANEY, MABEL J. *The British Journal of Psychology, Monograph Supplement 4, "The Psychology of the Organized Group Games."* Cambridge University Press.

Scholarly work. Very complete bibliography.

RICE, RICHARD A. *Stevenson: How to Know Him.* Indianapolis: Bobbs-Merrill Co., 1916. Pp. 395.

SHAW, W. C. *The Brief-Maker's Note Book for Argumentation and Debate.* Boston: Ginn & Co., 1916.

The book is unique. Its use would facilitate logical brief-making in the classroom and serve as a guide in the debating society.

Sixteenth Annual Report of the Director of Education, January 1, 1915-December 31, 1915. Manila: Bureau of Education, 1916. Pp. 185.

SNEATH, E. H., HODGES, G., and TUCEDY, H. H. *The Way of the Stars and the Way of the King's Palace.*

The books are a part of the eighth volume of the "King's Highway Series," designed for the moral guidance of grade-school children. The selections show careful regard for child interest and literary quality.

